

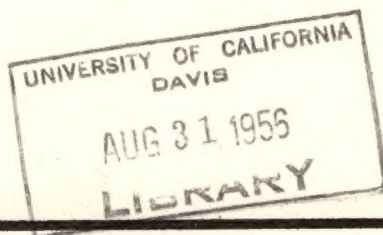
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Division of Agricultural Sciences
UNIVERSITY OF CALIFORNIA

LEMONS—FRESH AND PRODUCTS— ECONOMIC PROBLEMS, PRACTICES AND POLICIES

Sidney S. Hoos



**CALIFORNIA AGRICULTURAL EXPERIMENT STATION
GIANNINI FOUNDATION OF AGRICULTURAL ECONOMICS**

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University of California
Division of Agricultural Sciences
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Berkeley, California

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Sidney Hoos^{1/}

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LEMONS--TREES AND PRODUCTS--
ECONOMIC PROBLEMS, PRACTICES, AND POLICIES

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Sidney Hoos

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Preface

In response to requests from the California Lemon Products Advisory Board and various participants in the citrus industries, the economic status of the lemon industry was investigated with particular reference to the situation in lemon products and the working of the lemon products marketing order operating under the authority of the California Director of Agriculture. This report is a result of the investigation.

The studies underlying the investigation are based on economic and statistical analyses of available data and marketing information. Much of such data was obtained from the industry organizations. In that respect appreciation is gratefully acknowledged to M. D. Street and F. I. Burrill of Sunkist Growers, Inc., and R. L. MacRae and M. I. Brown of the Lemon Products Advisory Board. F. Bennett, Associate Chief, Bureau of Markets, California Department of Agriculture, and E. B. Pirtle, formerly economist in the Bureau of Markets, were helpful in connection with providing records on the development and operation of the lemon products marketing order. Considerable market information and personnel viewpoints concerning the industry were obtained from various individuals in the trade; they must remain unnamed, although acknowledgment is gratefully recorded.

The writer is happy to acknowledge with appreciation the aid he has received in the investigation. He himself, however, must bear the responsibility for the substantive findings, views, and inferences as presented in the report.

In the preparation of the report, the author was aided by Chaim Mendelsohn in the compilation of certain data; and acknowledgment is also given for the typing of the several drafts and the preparation of the stencils by the Giannini Foundation Stenographic Pool under the direction of Mrs. Viola Jank.

LEMONS--FRESH AND PRODUCTS--
ECONOMIC PROBLEMS, PRACTICES, AND POLICIES

Introduction

The lemon industry, in recent years, has been experiencing some new developments. They include economic as well as technological changes. These changes in conjunction with industry operations have resulted in various problems facing those engaged in the growing, shipping, and distributing of lemons and lemon products. The nature of some of these problems and their intensity differs among the various participants in the lemon industry. But certain problems are common to the industry at large, although they have differential short-run and long-run impacts on growers, processors, and distributors.

Each participating organization and firm in the lemon industry may well be expected to view and judge industry policy and operations in light of its own interests. The organizational structure of the lemon industry--fresh and products--provides a setting whereby the interests of one firm or group of firms are different from the interests of another firm or group of firms. Yet, such a mixture of interests is not unique to the lemon industry. It is a common characteristic of many industry, industrial as well as agricultural, in our economy.

The view taken in this report is that its concern is with the lemon industry at large. The role or position of particular firms, organizations, or groups of firms is not here considered or evaluated. To do otherwise, would not only be presumptuous in light of the economic and market information available but would also be contrary to the intent of the investigation on which the report is based. The current and prospective economic status of the lemon industry in the aggregate thus provides the general framework of the discussion set forth in the following sections. This does not mean, however, the issues

and developments considered in the report are of no direct concern to individual firms or organizations. On the contrary, the issues and developments are of such nature that they cut across the interests of all participants in the lemon industry. Each firm or group, however, may consider its own position and outlook in light of the over-all industry developments discussed and evaluated here.

The structure of the report includes three main sections following this introduction. The first main section, "Some Facts About the Lemon Industry," briefly summarizes certain basic economic trends and developments with which familiarity is necessary as background for the succeeding sections of the report. That section, hence, may be skipped over lightly or even skipped entirely by those well familiar with the industry; those readers less familiar with the basic economic trends of the lemon industry, however, may find the first main section informative in substance as well as for background.

The second main section of the report is titled "Some Problems of the Lemon Industry." The discussion there first includes consideration of the economic impact of new and potential plantings of lemons, particularly in terms of the interactions between the fresh and products utilizations. Next are considered the determination and measurement of factors affecting the market demands for fresh lemons and products. There, particular attention is given to their interrelations and the question of consumption competition between fresh lemons and juice products. Next is considered the market potential for lemon-juice products, with projections set forth in light of changing population, income, and consumer preferences. Then is considered the California marketing order for lemon products. The discussion is concerned with the operation of the order in relation to its stated objectives. Long-run as well as short-run economic effects are considered. Certain aspects of the relationships between

and interactions among the fresh lemon and products markets are discussed as they bear upon the operation of the order.

The final section of the report, "Surveying the Lemon and Lemon Products Situation," reviews the lemon industry's economic status. With the earlier sections as background, an over-all look is taken at the situation in the lemon industry. Various topics developed in the previous sections are integrated in terms of their implications and indications for the economic status of the fresh lemon and products industry.

Aside from the obvious comment that the report does not consider all of the questions and problems facing the lemon industry, it may be noted that the topics which are discussed were selected for particular reasons. These include reactions from various individuals in the industry and perplexing questions facing them, as well as the author's judgment of the type of report and discussion which might aid the industry in its consideration of the current and prospective situation as it bears upon the formulation of industry practices and policies.

Some Facts About the Lemon Industry

In this section we review various industry trends in light of some significant facts they bring forth bearing on the situation. Those readers not closely familiar with the lemon industry may gain insight into the current situation from a review of the pertinent trends; but those readers who are familiar with the industry and are well aware of its developments may either scan this section to refresh their memories and obtain the setting for the following sections or they may turn directly to them.

Production.--First, we shall consider the basic element, total production of lemons in California. For year-by-year detail, reference is made to the appendix tables. The significant features of the trend, however, are outlined in the following summary table:

Crop year	California production standard cars, 406 boxes per car
<u>Five-year average:</u>	
1940-41 to 1944-45	33,202
1945-46 to 1949-50	30,837
1950-51 to 1954-55	33,913
<u>Annual:</u>	
1950-51	33,005
1951-52	31,527
1952-53	31,034
1953-54	39,655
1954-55 ^{a/}	34,483

^{a/} Preliminary.

Source: Based on data in Table 16, column 1.

These data indicate that, during the past decade and a half, there has been no noticeably significant trend in total production of lemons. There have

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been the usual annual fluctuations, but they have occurred around an average trend line which has been pretty nearly horizontal, perhaps rising very slightly in recent years.

The five-year-average production of 33,913 standard cars (406 boxes per car) during 1950-51 to 1954-55, inclusive, is largely the result of the heavy production in 1953-54 which was the second largest on record (next only to 1940-41). If we adjust the 1940-41 to 1944-45 average for the year 1940-41, we obtain an average of 30,911 standard cars; and if we adjust the 1950-51 to 1954-55 average for the year 1953-54, we obtain 32,477 standard cars of production. Thus, there is some evidence of the production trend tilting up slightly in the past several years. From the production figures alone, one cannot derive a basis of estimating whether the upward tilt is of a temporary or more permanent nature. For such basis we must turn to the determinants of production--acreage and yield.

Acreage.--To obtain a complete picture of the lemon acreage trend, we should survey the annual figures for a decade or a decade and a half. This cannot be done with sufficient accuracy for our purpose because of the nature of the published data on bearing acreage. The annual data on bearing acreage beginning with 1949-50 are not comparable with earlier years because of an industry survey on a revised basis in 1948-49. Hence, to deal with comparable data, we consider the following acreage data since 1950-51 as recorded by the Lemon Administrative Committee which administers the federal marketing order for fresh lemons under the authority of the United States Secretary of Agriculture:

Crop year	Bearing acreage	Nonbearing acreage	Total acreage
	acres		
1950-51	58,239	5,683	63,922
1951-52	59,138	5,756	64,894
1952-53	58,453	5,372	63,825
1953-54	57,160	6,679	63,839
1954-55	56,575	6,932	63,507

Source: Table 4, column 11, and Table 5, column 11.

These data suggest that, during the past five years, lemon bearing acreage in California has decreased somewhat. The decline has not been significant, about 3 per cent between 1950-51 and 1954-55. But if the trend were to continue, the annual effects could accumulate into a significant change during a relatively brief period.

When we look at California nonbearing acreage during the past five years, we see a tendency toward increase, but this tendency is due to what occurred during only that past several years. Through 1952-53, nonbearing acreage trended down, but in 1953-54 turned up rather sharply and again increased in 1954-55. When the final figure for nonbearing acreage in 1955-56 is available, one may suspect that it will show a further increase. The question of nonbearing and newly planted acreage will be considered further in more detail in the following section.

Due to the generally opposite tendencies in bearing and nonbearing acreage during the past five years, total lemon acreage has changed relatively slightly. The decrease between 1950-51 and 1954-55 is only about 400 acres. Thus, for practical purposes, one may premise that total acreage of lemons in California

1050-10	1050-10	1050-10	1050-10
1050-10	1050-10	1050-10	1050-10
1050-10	1050-10	1050-10	1050-10
1050-10	1050-10	1050-10	1050-10
1050-10	1050-10	1050-10	1050-10

Table 1. Summary of data for the 1050-10 series.

The data suggest that the 1050-10 series is a random process. The data are plotted in Figure 1, and the autocorrelation function is shown in Figure 2. The autocorrelation function is zero for all lags other than zero, which is consistent with the hypothesis of a random process.

The data are also plotted in Figure 3, and the autocorrelation function is shown in Figure 4. The autocorrelation function is zero for all lags other than zero, which is consistent with the hypothesis of a random process. The data are also plotted in Figure 5, and the autocorrelation function is shown in Figure 6. The autocorrelation function is zero for all lags other than zero, which is consistent with the hypothesis of a random process.

The data are also plotted in Figure 7, and the autocorrelation function is shown in Figure 8. The autocorrelation function is zero for all lags other than zero, which is consistent with the hypothesis of a random process. The data are also plotted in Figure 9, and the autocorrelation function is shown in Figure 10. The autocorrelation function is zero for all lags other than zero, which is consistent with the hypothesis of a random process.

has changed, in net terms, hardly at all during the most recent five years. Whether an increase in total acreage will be reflected during the next five years or so depends on whether new plantings will overbalance pullings. On the other hand, there presently seem to be no obvious reasons why total acreage will trend down appreciably.

Yield.--We now turn to yield as another determinant of production. The recent trend in California lemon yield^{1/} per bearing acre is outlined in the following table:

Crop year	Yield packed boxes per bearing acre
1950-51	230
1951-52	216
1952-53	216
1953-54	282
1954-55	244

Source: Based on data in Table 5,
column 11, and Table 11, column 7.

These data indicate how widely yield has varied within a brief period of five years from a low of 216 in 1951-52 and 1952-53 to a high of 282 packed boxes per bearing acre in 1953-54. But this is not a new phenomenon. Wide variation in yields has not been unusual in California lemon production.

Interaction Between Bearing Acreage and Yield.--With a relatively stable bearing acreage in recent years, the variation in yield has resulted in the variation in production. The very large crop in 1953-54, for example, was due to the much increased yield of that year. The interaction among California

^{1/} The yield figures in the tabulation following in the text are based on industry production divided by bearing acreage with the latter used as recorded by the Lemon Administrative Committee.

the object of the study is to determine the effect of the treatment on the response of the subjects. The subjects are divided into two groups, one receiving the treatment and the other receiving a placebo. The response is measured by the number of subjects who respond positively to the treatment. The results of the study are as follows:

The results of the study show that the treatment has a significant effect on the response of the subjects. The subjects who received the treatment responded positively to the treatment significantly more often than the subjects who received the placebo. This result is statistically significant at the 5% level.



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lemon production, bearing acreage, and yield may well be noted when the data are presented as follows:

Crop year	Production	Bearing acreage	Yield
	indexes, 1950-51 = 100		
1950-51	100.0	100.0	100.0
1951-52	95.5	101.5	93.9
1952-53	94.0	100.4	93.9
1953-54	120.1	98.1	122.6
1954-55	104.1	97.1	106.1

Source: Based on data in Table 5, column 11, and Table 11, column 7.

The preceding indexes show how, with a relatively stable bearing acreage in recent years, the year-to-year changes in production have been generally correlated with the year-to-year changes in yield. In other terms, the yield in a recent particular year has in large degree determined the level of production. The importance of this lies in the fact that, since yields can be expected to vary from year to year and widely so in some years, production may also be expected to fluctuate from year to year and considerably so in some years. This volatile nature of yield, and its resulting effect on production, will be referred to again in the following section dealing with current problems facing the lemon industry.

Utilization of the Crop.--Because of their significant role in the utilization of lemon production, we next consider fresh shipments. These fresh shipments break down into several major categories: interstate, intrastate, and export. Since conventional practice in the industry is to group exports to

Canada with domestic interstate shipments, such procedure is followed in the summary below which outlines the California-Arizona domestic fresh shipping situation in recent years:

Crop year	Total domestic shipments	
	United States and Canada	Per cent of total utilization
	standard cars, 406 boxes per car	per cent
<u>Annual average:</u>		
1940-41 to 1944-45	22,175	71.6
1945-46 to 1949-50	20,450	67.6
1950-51 to 1954-55	19,473	57.0
<u>Annual:</u>		
1950-51	19,711	59.3
1951-52	20,108	61.5
1952-53	19,285	61.4
1953-54	19,322	47.0
1954-55	18,939	54.6

Source: Based on data in Table 15.

Taking fresh shipments to the United States and Canada as they occurred, we find a slight downward trend. During the war years, fresh shipments were at a relatively higher level, but there occurred some down trend in the immediate postwar years. In the past five years, fresh shipments to the United States and Canada, however, have been comparatively stable--about 19,000 to 20,000 standard cars annually. This stability in fresh shipments resulted primarily from "man-made" allocation to the fresh market in conjunction with the federal marketing order for fresh lemons. The heavy production in 1953-54 noted earlier, for example, did not result in unusually large fresh shipments; rather, they were held near historical experience, and the greater than usual production was absorbed by the products outlet.

The second column of the preceding table shows shipments to the United States and Canada as a percentage of total production. The downward trend in percentage allocation to the domestic fresh market is clearly noticeable in the table. Of particular note is the situation in 1953-54 reflecting the heavy absorption by the products outlet in that year as referred to previously. This is an extreme example of a significant point: in the face of variable production, fresh shipments have been held relatively stable with the residual supply being shunted to the products outlet. In this type of operation, the primary and active role has been allocation to the fresh outlet, with the secondary and passive role being played by the products outlet as the recipient of "surplus" not shipped fresh. In other terms, the products outlet has been used as a "shock absorber" of the impact from variable production and supply. A clearer picture of the California-Arizona lemon crop utilization in recent years may be gleaned from the following table:

Crop year	Fresh shipments				Ship for processing	Elimi-nation	Total
	Inter-state ^{a/}	Intra-state	Export ^{b/}	Total			
	per cent						
1950-51	53.4	5.9	2.1	61.4	37.7	0.9	100
1951-52	55.7	5.8	3.0	64.5	34.4	1.1	100
1952-53	55.9	5.6	3.6	65.1	34.4	0.5	100
1953-54	42.6	4.4	5.0	52.0	47.2	0.8	100
1954-55	49.6	5.0	10.5	65.1	34.1	0.8	100

^{a/} Includes Canada.

^{b/} Excludes Canada.

Source: Based on data in Table 21.

Consumption.--In view of the relative trends in fresh shipments and products utilization sketched above, it is here appropriate to consider consumption. For purposes at hand, it is of significance to compare consumption behavior in fresh lemons and lemon-juice products. Such comparison is summarized in the following table:

Crop year	United States per-capita consumption of lemons and lemon-juice products		
	Fresh lemons	Lemon-juice products ^{a/}	Total
	pounds	pounds, fresh equivalent	pounds
<u>Annual average:</u>			
1938-39 to 1940-41	4.4	0.2	4.6
1941-42 to 1945-46	4.8	0.6	5.4
1946-47 to 1950-51	4.2	1.0	5.2
1951-52 to 1953-54	3.6	2.1	5.7
<u>Annual:</u>			
1950-51	3.9	1.4	5.3
1951-52	3.8	2.0	5.8
1952-53	3.6	2.2	5.8
1953-54	3.6	2.1	5.7
1954-55	3.5	2.4	5.9

^{a/} Based on production for consumption of lemon-juice products adjusted for imports.

Source: Based on data in Table 18.

The down trend in fresh lemon consumption, per capita, was relieved during the war years but thereafter continued. The decline between the 1938-1940 and 1951-1953 averages was about 10 per cent. Aside from consumer preferences which may have undergone change, the rapidly increasing population and its changing age distribution affected the per-capita figures. But in contrast, the lemon-juice products rate advanced substantially, particularly in the more recent years.

When fresh lemons and juice products are combined, including the absorption of juice-products imports, the per-capita rate reveals an up trend during the past two decades. But during the past three or four years, the overall per-capita consumption rate has been stable at about 5.8 pounds per capita per year, with a slight decrease in the rate for fresh lemons being offset by a corresponding increase in the rate for lemon-juice products.

Lemon Products Imports.--Because of the role and position of lemon products imports, to be referred to again later, here it is relevant to outline their recent situation. The importation of lemon products is not a new phenomenon. There is a long record of lemon products imports into the United States. But in recent years, there has occurred a shift in the type of lemon products coming into the country. Lemon oil now enters in much less volume than 25 or 30 years ago; and citric acid which at one time entered in large volume has practically ceased in recent years. Lemon peel, crude, has a variable import history but in the past two years record-level imports entered. Lemon peel, candied, during the 1920's and 1930's was imported in substantial volume but during the past five years has averaged much less.

A significant change has occurred in concentrated lemon-juice imports. The situation there, as well as for the other lemon products, is shown for the postwar years in the following tabulation which outlines the United States imports of processed lemon products:

Calendar year	Lemon oil	Citric acid	Lemon peel		Lemon juice	
			Crude	Candied	Concentrated ^{a/}	Unconcentrated
			thousand pounds		thousand gallons	
1946	71	0	182	0	0	0
1947	51	0	681	1	0	0
1948	242	0	50	24	2	0
1949	154	0	200	3	387	2
1950	209	11	587	3	733	3
1951	292	0	146	1	847	8
1952	37	0	561	10	674	3
1953	114	0	1,897	2	1,799	0
1954	106	0	1,942	6	2,406	0

^{a/} The imports of concentrated lemon juice are shown in terms of single-strength equivalent gallons.

Source: Based on data in Table 23.

The very sharply increased level of concentrated lemon-juice imports is, perhaps, the outstanding feature of the changing import situation in lemon products. Its significance lies in its impact on the lemon-juice products market discussed in a following section. Here, we note and underline the recent upward trend in imports of concentrated lemon juice.

F.O.B. Prices of Fresh Lemons.--Before considering the relative returns from fresh and processed lemons, as part of the background, we briefly review the contrasting f.o.b. prices in winter and summer fresh lemons outlined in the following tabulation:

Year		1950		1951		1952		1953		1954		1955		1956		1957		1958		1959		1960		1961		1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		1977		1978		1979		1980		1981		1982		1983		1984		1985		1986		1987		1988		1989		1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		2030		2031		2032		2033		2034		2035		2036		2037		2038		2039		2040		2041		2042		2043		2044		2045		2046		2047		2048		2049		2050		2051		2052		2053		2054		2055		2056		2057		2058		2059		2060		2061		2062		2063		2064		2065		2066		2067		2068		2069		2070		2071		2072		2073		2074		2075		2076		2077		2078		2079		2080		2081		2082		2083		2084		2085		2086		2087		2088		2089		2090		2091		2092		2093		2094		2095		2096		2097		2098		2099		2100		2101		2102		2103		2104		2105		2106		2107		2108		2109		2110		2111		2112		2113		2114		2115		2116		2117		2118		2119		2120		2121		2122		2123		2124		2125		2126		2127		2128		2129		2130		2131		2132		2133		2134		2135		2136		2137		2138		2139		2140		2141		2142		2143		2144		2145		2146		2147		2148		2149		2150		2151		2152		2153		2154		2155		2156		2157		2158		2159		2160		2161		2162		2163		2164		2165		2166		2167		2168		2169		2170		2171		2172		2173		2174		2175		2176		2177		2178		2179		2180		2181		2182		2183		2184		2185		2186		2187		2188		2189		2190		2191		2192		2193		2194		2195		2196		2197		2198		2199		2200		2201		2202		2203		2204		2205		2206		2207		2208		2209		2210		2211		2212		2213		2214		2215		2216		2217		2218		2219		2220		2221		2222		2223		2224		2225		2226		2227		2228		2229		2230		2231		2232		2233		2234		2235		2236		2237		2238		2239		2240		2241		2242		2243		2244		2245		2246		2247		2248		2249		2250		2251		2252		2253		2254		2255		2256		2257		2258		2259		2260		2261		2262		2263		2264		2265		2266		2267		2268		2269		2270		2271		2272		2273		2274		2275		2276		2277		2278		2279		2280		2281		2282		2283		2284		2285		2286		2287		2288		2289		2290		2291		2292		2293		2294		2295		2296		2297		2298		2299		2300		2301		2302		2303		2304		2305		2306		2307		2308		2309		2310		2311		2312		2313		2314		2315		2316		2317		2318		2319		2320		2321		2322		2323		2324		2325		2326		2327		2328		2329		2330		2331		2332		2333		2334		2335		2336		2337		2338		2339		2340		2341		2342		2343		2344		2345		2346		2347		2348		2349		2350		2351		2352		2353		2354		2355		2356		2357		2358		2359		2360		2361		2362		2363		2364		2365		2366		2367		2368		2369		2370		2371		2372		2373		2374		2375		2376		2377		2378		2379		2380		2381		2382		2383		2384		2385		2386		2387		2388		2389		2390		2391		2392		2393		2394		2395		2396		2397		2398		2399		2400		2401		2402		2403		2404		2405		2406	
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Period, annual average for indicated periods	F.o.b. prices of fresh lemons		Excess of average summer price over average winter price
	Average winter price	Average summer price	
	dollars per packed box		
1925-1929	3.88	4.70	0.82
1930-1934	2.81	3.95	1.14
1935-1939	3.31	3.66	0.35
1940-1944	3.83	4.31	0.48
1945-1949	5.54	5.72	0.18
1950-1954	5.92	6.06	0.14
1950-51	5.82	5.88	0.06
1951-52	6.06	6.67	0.61
1952-53	5.93	6.52	0.59
1953-54	6.10	5.75	-0.35
1954-55	5.67	5.47	-0.20

Source: Based on data in Table 26.

First may be noted that the general trends in the f.o.b. prices of winter and summer fresh lemons have been somewhat similar and that the year-to-year changes in both series have generally been in the same direction. But the average differential between the winter and summer prices appears to have been undergoing somewhat of a change.

There is evident some tendency for the spread between the winter and summer prices to narrow; such tendency has occurred to such an extent that during the years 1953-54 and 1954-55 the average winter price exceeded the average summer price, a situation opposite from that which "normally" prevailed in earlier years. Whether the trend in the differential between the summer and

winter f.o.b. prices of fresh lemons reflects a dampening of demand for fresh summer lemons relative to fresh winter lemons is not fully clear. Such an interpretation may have a substantive basis. But the explanation cannot be framed wholly in terms of the impact of lemon-juice products on the fresh lemon market because the trend in the changing price differential is evident before juice products obtained their prominence of recent years. The most one might infer is that the impact of juice products has reinforced a trend which already prevailed.

On-Tree Returns of Fresh and Processed Lemons.--Now, we turn to the relative on-tree returns of fresh and processed lemons. It is returns or value at the on-tree level which are of basic concern to growers. The historical record of on-tree prices is summarized as follows:

Crop year	On-tree returns of fresh and processed lemons	
	Fresh shipments	Processed
	dollars per packed box	
<u>Annual average:</u>		
1925-26 to 1929-30	2.84	0.31
1930-31 to 1934-35	2.21	0.05
1935-36 to 1939-40	2.18	0.28
1940-41 to 1944-45	2.39	0.19
1945-46 to 1949-50	3.21	0.10
<u>Annual:</u>		
1950-51	3.21	0.24
1951-52	3.69	0.77
1952-53	3.71	1.98
1953-54	3.38	0.45
1954-55a/	3.01	-0.18

^{a/} Preliminary.

Source: Based on data in Table 17.

The above summary clearly outlines the general situation where growers have found and necessarily relied upon the fresh market as the mainstay of their lemon crop income. Yet, the increased returns from the products outlets beginning in 1949-50 and continuing on at a higher level than in the earlier years until 1954-55, particularly the record processed return in 1952-53, attracted unprecedented attention to lemons for processing. The increased returns from processing lemons during 1949-50 to 1953-54 stemmed more from the greater production of higher valued lemon products than from the increased volume of lemons processed.

The relative on-tree total lemon returns from the fresh and processed outlets may further be contrasted by the data in the following summary tabulation:

Crop year	Total on-tree value		Fresh as per cent of total value per cent
	Fresh	Processed	
	million dollars		
Annual average:			
1940-41 to 1944-45	21.7	0.84	96.0
1945-46 to 1949-50	27.3	0.04	99.0
Annual:			
1949-50	26.8	4.2	86.5
1950-51	26.6	1.2	95.7
1951-52	31.0	3.4	90.1
1952-53	30.4	8.7	77.7
1953-54	28.7	3.4	89.4
1954-55 ^{a/}	27.4	-0.8	103.4

^{a/} Preliminary.

Source: Table 17.

Here, again, is evident the highly favorable position taken by returns from processed products during a number of recent years, particularly 1949-50, 1951-52, 1952-53, and 1953-54. But in 1954-55 the situation returned closer

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to the more usual one which prevailed prior to 1949-50. It is this type of interaction between the fresh and products markets, and their relative returns, which is a focal point of reference and interest in the following sections for which the materials summarized hereto serve as background.

to the same extent as that provided prior to 1942-43. It is this type of information between the local and provincial authorities, and the local authorities, which is a local point of reference and interest in the following sections for the purpose of the present study.

Some Problems of the Lemon Industry

To provide a bird's-eye view of the statistical picture which may serve as a brief recapitulation of the facts sketched in the previous section and also serve as a theme around which this section may be developed, the following tabulation on production and utilization of lemons is here presented:

Marketing year	Total Cali- fornia-Arizona production	Sold fresh		Juice sales from do- mestic pro- duction	United States imports of juice products	Total juice sales from domestic and import sources
		Domestic ^{a/}	Exports ^{b/}			
thousand standard carloads--fresh equivalent basis, 406 boxes per car						
1948-49	25.6	19.3	.217	4.301	0.324	4.625
1949-50	25.8	17.9	.250	6.141	0.609	6.750
1950-51	33.2	19.7	.697	5.813	0.687	6.500
1951-52	32.7	20.1	1.003	9.313	0.585	9.898
1952-53	31.4	19.3	1.121	9.438	1.481	10.919
1953-54	41.1	19.3	2.053	8.813	2.011	10.824
1954-55 ^{c/}	34.7	18.9	3.662	10.500	2.041	12.541

a/ Includes Canada.

b/ Excludes Canada.

c/ Preliminary.

Source: Based on data in Tables 16, 21, and 22.

The data in the above table reflect a large number of influences. Among them the following are selected for consideration in this section, in view of their significance for the current and prospective development of the lemon industry: new and potential plantings of lemon acreage in the California-Arizona desert area and Florida as well as importations from foreign production; market relationships between fresh lemons and lemon products; the longer term market potentials for lemon-juice products; and consideration of the lemon products marketing order and its operation.

New and Potential Plantings.--Along with the improved returns to lemon growers in some of the recent years compared with the earlier ones, considerable interest was generated in new plantings of lemon acreage. The higher level of on-tree returns from fresh shipments during the 1950-51 to 1953-54 period, particularly in conjunction with unprecedented levels of on-tree returns from lemons used in products, attracted much attention. Many who had not previously considered lemons as a production alternative began to give serious attention to the crop, and some went forward with plantings. As a result of the situation, rumors of new plantings not only in Arizona but also in parts of California and in Florida "ran wild." With little substantive basis, many "statistics" of new lemon acreage and plantings circulated in the industry. Rumor fed on rumor. And beneath this situation, which at times approached hysterical proportions, was a real fear in the minds of many established growers that, in the matter of a few years, the potential production of lemons would lead to ruinous returns to many producers. To investigate the factual situation and to analyze its impact on the industry, a review of the development of new acreage and plantings as a basis for potential production is necessary.

In the consideration of lemon production which may be viewed as potentially new sources of supply for the fresh market as well as for products, the following areas are considered in turn: Yuma Mesa of Arizona, Salt River Valley of Arizona, Florida, desert area of California, certain foreign countries, and finally the historically important lemon-producing area of California.

The Yuma Mesa of Arizona, a recognized citrus area, has contrasting high-temperature summer months and relatively cold periods in the winter months. As part of the desert area, the Yuma is characterized by sandy soil which does not hold water well. Yet, with irrigation developments, water is not in short supply and the cost of irrigation water likely averages less per acre per year than in California lemon-producing areas.

The new plantings of lemons in the Yuma are in large part on acreage that otherwise would likely be used for alfalfa as an alternative, and perhaps some acreage could go to early grapes. Due to Arizona state regulation which requires Arizona-grown nursery stock, the limitation of its supply in several past years probably slowed down plantings. It has been reported that most of the recent Arizona plantings have been of the Lisbon variety on rough lemon rootstock.

When an attempt is made to tie down in specific terms the extent of new plantings in recent years, it is difficult to separate hearsay from facts. No firm data are available. An acreage and age of trees survey is now in process, and it is expected that in the autumn of 1956 results of the survey will be available. After evaluating a substantial number of "informative reports," it appears that on the Yuma Mesa there are now about 3,000 acres of lemon trees in total of which only about 200 acres are as much as ten years old and about another 300 acres between five and ten years old.^{1/}

As to the production potential in the Yuma, no one really knows. With adequate and relatively inexpensive water, adaptable soil, and appropriate temperatures, the physical base for much expanded production may well exist. A tripling of new acreage could accumulate within a decade if the economic incentive prevails. But the Yuma lemon crop is harvested once a year in the late fall and early winter, and many think of the crop as one planted primarily with lemon products in view as the market outlet. Thus, one may infer, from such grounds, that the interest in further plantings in the Yuma may be related to the economic status of the lemon products market.

^{1/} Acknowledgment is gratefully expressed for the informative observations from C. W. Van Horn, Associate Horticulturist, Yuma Experiment Station, University of Arizona.

The Salt River Valley of Arizona has also attracted attention where new plantings of lemon trees have been occurring. The water situation there is probably less favorable than in the Yuma. The main sources of water include the Salt River, gravity flow contained behind a series of dams, and water pumped from wells. Since the water table has been falling, the cost of water pumped from wells, especially deep ones, has been increasing in recent years.

Weather conditions in the Salt River Valley area are highly variable considering the extent of the acreage involved. Daily changes in temperature are fairly substantial, and not infrequently in some sections frost protection is required at times. Hot, dry weather in the summer and prewinter months requires substantial application of water. Frost damage occurs irregularly and scattered as in 1949 and 1950 as well as in 1953 and 1954. During the past several years, the use of orchard heaters and wind machines has increased.

Present acreage of lemons in the Arizona Salt River Valley is estimated at about 1,100 acres out of a total of about 15,000 acres of citrus. As in the Yuma, the lemon crop is harvested once a year during the October-December period. Some observers express the view that, with respect to new citrus plantings in the Salt River Valley, more land will be planted to oranges than to lemons. Yet, the curtailment of cotton production in the Valley could accelerate interest in lemons as one of the alternatives. Where citrus has been replaced by top-worked lemons, it appears to have been grapefruit, particularly in the warmer parts of the Valley.

There is little question that, from the physical side, lemon acreage in the Salt River Valley can expand further and substantially so in relative terms. Yet, freeze damage is a real hazard, and the water situation cannot be ignored. In terms of returns close to those of, say, 1951-52 and 1952-53, however, inducement can well exist for further planting. With last year or this year as a

The first object of the present work is to give a general account of the history of the English language, from its origin to the present time. It is not intended to be a complete history, but rather a general sketch, showing the progress of the language, and the influence of various causes upon its development. The work is divided into three parts: the first part contains a general account of the English language, from its origin to the present time; the second part contains a general account of the English language, from its origin to the present time; and the third part contains a general account of the English language, from its origin to the present time.

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base for comparison, considering returns for products a primary outlet for the Valley crop, the inducement is much less attractive.

For both the Yuma Mesa and Salt River Valley areas of Arizona, the physical base for further plantings is clearly evident. The outcome depends on the situation with respect to potential earnings which are now considerably less than three or four years ago. Marketing problems rather than production problems appear to be the major determinant of prospective planting intentions in Arizona.

It is only in the past several years that Florida has attracted attention as a source of lemon supplies. This increased attention has coincided with the growth in the higher valued lemon products as concentrate for lemonade and has followed certain years when supplies for concentrated lemonade were light. In prior years it was recognized that Florida could grow lemons, although not varieties and qualities conventionally acceptable for commercial fresh shipment. But where product appearance and keeping quality is of minor importance and where other characteristics are of greater importance as for fruit destined only for processing right after harvest, Florida lemons could assume a different position. Their potential volume for use in products manufacture certainly cannot be dismissed lightly.

Some indication of the augmented interest in lemon plantings in Florida during recent years is suggested by the following tabulation which shows lemon and lime trees moved from Florida nurseries to Florida destinations since 1949-50:

Year (July-June)	Lemons	Limes
	number of trees	
1949-50	6,875	21,180
1950-51	7,351	17,206
1951-52	6,040	25,696
1952-53	6,908	35,256
1953-54	31,621	87,232
1954-55	63,333	71,559

Source: Table 7.

These data reflect a relatively sharp increase in lemon plantings, particularly in 1953-54 and 1954-55. Whether the up trend will continue is not yet fully clear, but what is clear is that interest in lemon plantings has been excited in Florida.

In the summer of 1954, the federal citrus statistician in Florida is reported to have summarized the situation then along the following lines: There were (in 1954) only a very small number of producing lemon trees in Florida, although "much interest" was being shown in the crop and some 600 to 900 acres were planted the previous fall and winter, and also some budding on old stumps took place. He remarked, however, that although the "lemon deal looked hot" with California's large crop in 1954, it (the lemon deal in Florida) "may cool off."

Other reports available indicate a feeling of certain interests active in Florida along the lines of "a veiled threat that they [California] wouldn't enjoy this monopoly for too many years." Allegedly steps were in progress "to have produced a new lemon just fit for the processors." It is reported that some acreage of grapefruit was being budded to lemons. Although authoritative figures are difficult to obtain, it may be a reasonable estimate that as of now about 3,000 acres of new plantings of lemons are in Florida. It has been reported that this year some 50,000 boxes of Florida lemons will be processed into juice.

It is reasonably clear that, from the view of physical ability, Florida can successfully grow lemons for processing for which they are best adapted not only because of their natural characteristics but also because they are a one-set crop which must be harvested during a relatively brief period. With the economic incentive pushing Florida growers, they could easily have 7,000 to 10,000 acres of new plantings within a few years. But last year and this year have not yielded the economic incentives of several previous years. Thus, in Florida as well as in Arizona, the production potential exists.

To aggregate the new domestic plantings of lemons outside of California in the past several years, the following tabulation of ranges is set forth:

Yuma Mesa of Arizona	3,000 to 3,500 acres
Salt River Valley of Arizona	1,000 to 1,500 acres
Florida	<u>2,500 to 3,500 acres</u>
	6,500 to 8,500 acres

Thus, we arrive at a range of 6,500 to 8,500 acres with about 7,500 acres as a "likely" figure. This compares with about 7,000 acres nonbearing and about 57,000 acres bearing in California in 1954-55 as reported by the Lemon Administrative Committee.

These comparative figures, by themselves, tell only part of the story. Since the new plantings and prospective production surveyed above are best adapted in terms of physical nature of the lemons produced for processing, the direct impact is on the processed products market for several reasons, including the important one that the flow of lemons into products is not controlled in Arizona or Florida as in California. Yet, important indirect effects can spill over into the fresh shipping market, also, because in terms of economic operations the fresh and processed markets are now closely interrelated and much more so than in the prewar and immediate postwar years.

With respect to new plantings of lemons in the California desert area, there apparently has been much confusion. After considerable investigation, we have been able to locate only minor acreages which have in fact been planted "a few hundred acres." In specific terms about 600 acres, including nearly 100 acres from five to seven years old, can be documented. Yet, more than a few individuals apparently believe that more new lemon acreage is in prospect for the California desert area.

There seems to be reasonable agreement that water is no serious problem in the desert area under present conditions. With Colorado River water now in the desert area, there seems to be plentiful water at a reasonable charge. The thought is that there is room for considerable new development before water could be expected to come in as a limiting factor.

Most observers agree that the cold winter temperature, with the resulting risk of freeze damage to the trees, is the major uncertainty and is likely to be the main limiting factor in new lemon development in the California desert area. (The extreme summer heat apparently is no problem.) Yet, there is disagreement as to how severe a limitation the risk of freeze damage places on the potential for lemon expansion in the area. For example, some observers are of the view that there are sufficient warm sections, as in the Coachella, where lemons can be grown successfully to allow for a considerable expansion in that section.

It may be noted that until relatively recently some soil specialists have maintained that the coarser sandy soils of the desert area were not suitable for citriculture. This view was presumably based on the idea that the coarser soils would permit too fast a rate of water seepage which would make for heavy leaching of fertilizer. With the abundance of cheap water, however, there seems to be no worry about water loss through seepage, and techniques of fertilizer application have apparently been developed which make for more efficient use of fertilizer. The lemons which have been planted on the coarser soils in Coachella apparently are doing rather well. Thus, there presumably is a sizable acreage of lighter soils which could be brought under cultivation with the water supply now available.

With respect to crop alternatives in the desert area, in addition to lemons, mention may be made of grapefruit, grapes, vegetables (tomatoes, sweet corn, early beans, asparagus, carrots, lettuce, and melons), alfalfa, cotton, and

pasture. Presumably, grains are not excluded by physical considerations, although economic considerations put them rather low on the scale. In general the list of alternatives can likely be limited to those competing directly for the warmer soils as grapefruit, grapes, and vegetables produced for the early fresh market (early tomatoes, sweet corn, early beans, and maybe asparagus). Some observers speculate that livestock feeding could become more important in the desert area, with water available for pasture, and with hay being shipped into the area.

As in the Arizona areas referred to above, California desert lemons are primarily "a one shot harvest deal," with the economic outlook depending a good deal on the strength of the lemon products market. Some observers expressed the view that prospective growers are waiting and watching the plantings which have already been made in the desert. Barring extensive freeze damage in the near future and if the products market were to resume a highly favorable status, there could be relatively substantial expansion in lemon acreage. But a severe freeze in the near future could dampen considerably the enthusiasm for lemons. It may be that the single important physical factor is winter temperature, yet, there is uncertainty as to how serious a hazard is freeze damage in fact.

When potential new plantings and production are considered, developments in foreign countries must not be neglected. The impact from such supplies on the domestic market can be direct and real. Such has already occurred to a not inconsequential degree on the domestic lemon products market as has been noted in a previous section dealing with imports.

Italian production of lemons is now recorded at about 8,000,000 to 9,000,000 boxes annually. But in the middle 1920's and early 1930's, Italian production varied around 12,000,000 to 15,000,000 boxes a year and at times went higher. With the economic incentive at hand and our tariff structure and

trade policy trending as in recent years, Italian production could well increase and provide additional "export surplus" in the form of products destined for this market.^{1/} In addition to Italy, lemons from Chile, Spain, and Turkey enter in world commerce. Development of lemon products facilities in such countries is not a matter to be discarded or taken lightly. The impacts from such potentialities are of direct concern to the outlook for the products market as a profitable or even a "break even" outlet for domestic-grown lemons.

In consideration of potential production from new plantings of lemons, historically important producing counties in California as Ventura, Los Angeles, Santa Barbara, San Bernardino, and Orange among others require attention. Under appropriate circumstances the potential of such areas can exceed the areas surveyed above. Reliable data on nonbearing acreage of lemons in California since 1950-51 show a relatively substantial increase for the past two years. And total lemon acreage in the state is now under the level of a decade earlier. These earlier levels can be regained if growers anticipate profitable operations from such expansion. As one conservative observer commented, "if new potential acreage and production is the question at issue, we can expand plenty right here at home in the Coastal and other old areas faster and in greater tonnage than most people realize--all we need is the promise of earnings." The thought there expressed has much to it, and with a series of profitable years in both the fresh and products markets, one can expect further increases in new plantings and nonbearing acreage in the established lemon-producing areas in the state. Moreover, lemons from such sources are not "one shot harvest deals" primarily for products but rather have direct impacts on both the fresh and products markets.

^{1/} J. Henry Burke estimated that by 1960-61 the Mediterranean area (Italy and Spain) will attain a production of 17,500,000 boxes of lemons compared with 10,300,000 boxes estimated for 1955-56 in that area. See, Burke, J. Henry, "Mediterranean Citrus Crop Outlook for the 1955-56 Season," Foreign Agriculture Circular (Washington: Govt. Print. Off., October 26, 1955). (U. S. Department of Agriculture.) (FCF 5-55.)

Market Demands for Lemons and Lemon Products.--The nature of the demands for fresh lemons and lemon products serves as one of the major connecting links between the production-marketing of the crop and the income received from it. The market demands for lemons, fresh and processed, express the relation between quantities the markets will absorb at various prices under certain specified conditions. Also of significance is how the demands are affected by those conditions and how the money income from the crop varies in response to changes in the volumes marketed.

The general nature of the demand for fresh lemons is well understood from earlier studies and from market experience. Here, we are concerned, however, with the market interactions between the demands for fresh and processed lemons, for reasons discussed elsewhere in the report. To throw light on this question, the following procedure is adopted: First, we briefly comment on what is meant by "demand" in economic terms; then we review some statistical evidence bearing on the demand relations between fresh lemons and lemon products. In that respect attention is initially given to fresh lemons and total processed lemons; that is followed by consideration of the demand relations between fresh lemons and particular juice products purchased by consumers.

The term "demand" is frequently used as equivalent to the quantity of a product, say, lemons which has been sold or the market has taken. A more acceptable and useful interpretation is that which refers to the relation between a schedule of prices and a corresponding schedule of quantities, both schedules pertaining to a particular product in a particular market. Hence, "demand" is representative of various quantities of a product that would be purchased at various corresponding prices in a given market, at a given time, and under given conditions. Those given conditions include tastes and preferences of buyers or potential buyers, amounts of income or money available for expenditures on all goods, and prices of other goods and services. Thus, in a strict sense, the

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"demand" for a particular product pertains to some given situation in which all influences, except price and quantity of the particular commodity, are given and fixed. In such a context it can be argued that, for a given demand, price and quantity of the particular commodity vary inversely; the lower the price the larger the quantity that would be taken, the higher the price the smaller the quantity that would be taken. So are constructed demand schedules which are mathematically represented by demand equations and graphically pictured as demand curves. Always in the background of such demand curves, however, and influencing their shape and position are the given conditions such as income and tastes of the buyers, prices of other products, and the characteristics of the particular market.

In the consideration of many problems in lemon marketing, the nature of the demand for lemons is of crucial importance. This arises for two reasons. First, there is the question as to how changes in quantity and changes in price are related for a given lemon demand situation represented by its corresponding demand schedule or demand curve. Second, there is the question as to how the lemon demand schedule as a whole responds to changes in the level of factors such as income and temperatures.

The relations between price changes and quantity changes for a given demand schedule are often expressed by the phrase, "elasticity of demand with respect to price," which we shall refer to briefly as "price elasticity." In precise terms price elasticity at a point on the demand schedule measures the percentage change in quantity which occurs in response to the corresponding percentage change in price. In more specific terms the price elasticity equals the percentage change in quantity divided by the corresponding percentage change in price; the changes should be small since the price-elasticity coefficient pertains to the relationship at the price-quantity point from which the changes are considered. Therefore, the price elasticity may, and usually does, vary from point to point on a given demand schedule.

and, finally, I should like to mention a point which is of great importance in the study of the history of the theory of the differential equation. The question of the existence of solutions of the differential equation is one of the most important questions in the theory of the differential equation. The question of the existence of solutions of the differential equation is one of the most important questions in the theory of the differential equation. The question of the existence of solutions of the differential equation is one of the most important questions in the theory of the differential equation.

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When the absolute value of the price-elasticity coefficient is greater than one at a certain point on the demand schedule, the demand is said to be "elastic" for the price-quantity combination at that point; when the absolute value of the price-elasticity coefficient is less than one at a certain point on the demand schedule, the demand is said to be "inelastic" at that point; and when the price-elasticity coefficient is equal to one, the demand is said to be of "unit elasticity."

Whether the demand is "elastic" or "inelastic" is of prime importance to marketing plans and decisions. The elasticity nature of demand reflects the behavior of gross money revenue from sales as they are increased or decreased. Although it is not necessary here to prove the following relations, it can be shown that, when the price and quantity change on a given schedule, the resulting gross revenue increases or decreases depending upon the price elasticity. When the demand is elastic at a given price-quantity combination on the demand schedule, a small decline in price results in an increase in total money revenue from sales; but when the demand is inelastic at a given price-quantity point, a small decline in price results in a decrease in total money revenue sales. Conversely, a small increase in price from an elastic point on the demand schedule results in a decrease in total revenue, and a small increase in price from an inelastic point on the demand schedule results in an increase in total money revenue from sales. Such effects of price and quantity changes on total revenue make it clear why it is helpful to have indications of the price-elasticity coefficients when considering marketing practices. With knowledge about the values of the price elasticities for lemons, for example, one may draw inferences as to the money effects associated with the marketings of different quantities of lemons.

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Many familiar with and concerned with lemon marketing have observed from their market experience that the demand for fresh lemons tends to be inelastic, that is, not only do somewhat decreased shipments to market bring a somewhat higher price per unit but total returns are increased. The reasons offered have been various, but in essence they pertain to the nature of the market demand for lemons. Economic-statistical studies of the demand for fresh lemons have been reported in various studies.^{1/} They agree and confirm that fresh lemon market demand has been and continues to be inelastic from the view of total seasonal marketings.

Since fresh summer and fresh winter lemons are affected by differing market characteristics, it may be worth while first to consider them separately. Economic-statistical analyses of fresh summer lemons generally indicate their having inelastic demand at the f.o.b. level of the marketing system. The degree of inelasticity may vary from season to season, but in most seasons, price inelasticity prevails at the f.o.b. level. When fresh winter lemons are considered separately, we find that their f.o.b. demand also tends to be inelastic. The degree of inelasticity varies from season to season, depending upon the particular market situation in a given season but generally the price inelasticity of the demand clearly emerges.

When the retail and on-tree levels of marketing are considered, along with the f.o.b. level, we again find a tendency for price inelasticity as characteristic of the demand for fresh summer lemons. In fact, we find that the earlier the marketing stage considered, the greater is the inelasticity of demand; demand at the on-tree level is less elastic than the demand f.o.b. level which,

^{1/} Hoos, Sidney, and R. E. Seltzer, Lemons and Lemon Products, Changing Economic Relationships (Berkeley: 1952), 78p. (California Agricultural Experiment Station Bul. 729.)

Hoos, Sidney, Price-Elasticities of Fresh and Processed Lemons (Berkeley: University of California, Division of Agricultural Sciences, Agricultural Experiment Station, January, 1955), 11p. Processed.

in turn, is less elastic than the demand at the retail level. Such interrelations for the price elasticities at the various marketing stages are accounted for by the behavior of marketing margins and costs.

So far we have reviewed in general terms the economic-statistical seasonal demands of fresh lemons, summer and winter. Now, we turn to the demand relations between fresh and processed lemons. And to get as close as the data permit to the situation as it bears on grower returns, we consider some results of studies on the demands for fresh and processed lemons at the on-tree level of demand.

The volume of lemons and processed products taken by the market during the year as a whole is undoubtedly determined by a large number of factors. Among such many influences, several stand out as the more important as prices, income, and extreme variation in weather temperature. It should not be presumed that those are the only influences but rather that they are included among the major factors which can be measured. From an economic-statistical view, they serve as a basis for estimating, as a helpful approximation, the market demand for lemons and their products.

Since we are here interested in the interrelation and interaction between the fresh and processed outlets for lemons, the influences of both the fresh and products markets should be reflected in the demands. In that way measurable relations between the two outlets may be observed and an approximation obtained of the degree of consumption competition between them. This is first done by constructing and analyzing the statistical market structure of demand for fresh lemons. Here the volume of fresh lemon shipments is statistically related to the on-tree price of fresh lemons, the on-tree price of processed lemons, a measure of temperature, and a time trend which includes other factors

whose combined influence is reflected by a smooth and persistent linear trend over time.^{1/}

In verbal terms the statistical market-behavior equation may be summarized as follows. When fresh shipments are related to their on-tree price, the on-tree price of processed lemons, a temperature index, and a time trend:

A 10-per cent change in the on-tree price of fresh shipments, by itself, with other factors held constant, is associated with an average change in the opposite direction of about 2.3 per cent in the marketing-year total fresh shipments.

A 10-per cent change in the on-tree price of processed lemons, by itself, with other factors held constant, is associated with an average change in the opposite direction of about 0.1 per cent in the marketing-year total fresh shipments.

^{1/} The corresponding statistical equation, fitted by the method of least squares, is as follows:

$$X_f' = 2.023 - 0.228Y_f' - 0.010Y_P' - 0.644W' + 0.011T; \bar{R} = 0.953;$$

(4.443)_f (1.014)_P (3.687) (14.874)

figures in parentheses are t-ratios, and primes denote logarithms to the base 10.

X_f = Marketing-year total fresh shipments (in millions of boxes).

Y_f = On-tree price for X_f (in dollars per packed box equivalent).

Y_P = On-tree price for marketing-year total volume processed (in cents per packed box equivalent).

W = Index of winter (December-February) temperature (1931-32 = 100).

T = Time, origin at 1923-24.

See Hoos, Sidney, Price-Elasticities of Fresh and Processed Lemons (Berkeley: University of California, Division of Agricultural Sciences, Agricultural Experiment Station, January, 1955), 11p. Processed.

A 10-per cent change in the index of winter temperature, by itself, with other factors held constant, is associated with an average change in the opposite direction of about 6 per cent in the marketing-year total fresh shipments.

Although the market-behavior equation reflects an upward shift in the market demand for fresh lemons, the upward shift describes the situation which has generally prevailed over the past two and one-half or three decades. If the postwar years, by themselves, are considered, that is, the past decade, then the situation is more aptly described as one where the market demand for fresh lemons has decreased, the market demand for lemon products has increased, and the market demand for total lemon usage (fresh and processed) has remained about stable.

These above statistical results provide a basis for the inference that not only is the seasonal market demand for fresh lemons "inelastic" (within the range of operations, smaller total fresh shipments yield larger on-tree returns than do larger fresh shipments) but also the inference that an increase in the on-tree price of processed lemons, by itself, tends to be associated with a decrease in the seasonal total volume of fresh shipments, indicating that the fresh and processed utilizations are to a noticeable extent competitive.

These findings follow from the market equation where the volume of fresh shipments is viewed as the element to be explained. Further results are now presented from a market equation where the volume of processed lemons is viewed as the element to be explained. Here, the annual volume of processed lemons is

statistically related to the on-tree prices of processed and fresh lemons, respectively, a measure of national income and a time trend.^{1/}

In verbal terms the statistical market-behavior equation for the volume of processed lemons may be summarized in the following terms. When the volume of processed lemons is related to their on-tree price, the on-tree price for fresh lemons, a measure of national income, and a time trend:

A 10-per cent change in the on-tree price of processed lemons, by itself, with other factors held constant, is associated with an average change in the opposite direction of about 1 per cent in the marketing-year total volume processed.

A 10-per cent change in the on-tree price of fresh lemons, by itself, with other factors held constant, is associated with an average change in the opposite direction of about 20 per cent in the marketing-year total volume processed.

^{1/} The corresponding statistical equation, fitted by the method of least squares, is as follows:

$$X_p' = -0.189 - 2.036Y_f' - 0.095Y_p' + 1.355I' + 0.010T; \bar{R} = 0.826$$

(4.336)^f (1.249)^p (2.855) (1.008)

figures in parentheses are t-ratios, and primes denote logarithms to the base 10.

X_p = Marketing-year total volume processed (in millions of boxes).

Y_f = On-tree price for X_f (in dollars per packed box equivalent).

Y_p = On-tree price for marketing-year total volume processed (in cents per packed box equivalent).

I = Index of United States disposable personal income (1947-1949 = 100).

T = Time, origin at 1923-24.

See Hoos, Sidney, Price-Elasticities of Fresh and Processed Lemons (Berkeley: University of California, Division of Agricultural Sciences, Agricultural Experiment Station, January, 1955), 11p. Processed.

As the index of national income changes, with other factors held constant, the volume of processed lemons tends to change in the same direction. Over time there has been an upward shift in the market absorption of processed lemons, although the upward shift has been more pronounced in recent years.

These results again provide analytical grounds for the inference that the processed and fresh outlets of lemons are competitive in demand and utilization; also, the statistical evidence suggests the existence of some degree of inelasticity in the market demand structure for processed lemons.

The economic-statistical evidence summarized and considered above for the seasonal totals of fresh lemons and processed lemons bears upon the nature of their aggregate demands and, for that reason, is pertinent for the subject of this section. Growers and marketers of lemons need be concerned with the interrelations of fresh lemons and lemon products; and the concern is of growing importance, for only with a clear picture and understanding of the interactions between the two outlets for lemons can their interrelations best be taken advantage of in the marketing of the lemon crop.

The results surveyed so far, however, pertain to the marketing year as a whole and to total lemons processed. Another approach from the view of fresh shippers and distributors of lemon products is to consider, say, summer lemons for the fresh market in relation to specific lemon products. That is next done for summer lemons and canned lemon juice to be followed by summer lemons and frozen concentrated lemonade.

With the use of monthly data on consumer household purchases of fresh lemons and canned (including bottled) lemon juice, a market-behavior equation was constructed relating the household purchases of canned lemon juice to the retail store price of canned lemon juice, the retail store price of fresh lemons, and

the level of summer (May-October) temperature.^{1/} In verbal terms the meaning of the equation may be stated as follows:

A 10-per cent change in the retail store price of fresh lemons, by itself, with other factors constant, is on the average associated with a change in the same direction of about 20 per cent in the consumer household purchases of canned lemon juice.

A 10-per cent change in the retail store price of canned lemon juice, by itself, with other factors constant, is on the average associated with a change in the opposite direction of about 4 per cent in consumer household purchases of canned lemon juice.

A 10-per cent change in the summer (May-October) mean maximum temperature, by itself, with other factors constant, is on the average associated with a change in the same direction of about 39 per cent in the consumer household purchases of canned lemon juice.

^{1/} The corresponding statistical equation, fitted by the method of least squares, is as follows:

$$Y_2' = -8.513 + 2.128X_1' - 0.421X_2' + 3.876X_3'; \bar{R} = 0.878;$$

(2.635)¹ (1.027)² (6.891)³

figures in parentheses are t-ratios, and primes denote logarithms to the base 10.

Y_2 = Consumer household purchases of canned and bottled lemon juice (in thousands of cases).

X_1 = Retail store price of fresh lemons (in cents per dozen).

X_2 = Retail store price of canned lemon juice (in cents per 5½-ounce can equivalent).

X_3 = Mean maximum monthly temperature (May-October).

These unpublished results for fresh lemons and canned lemon juice were developed by Dr. G. M. Kuznets from published data on consumer purchases collected by the Market Research Corporation. The writer is indebted to Dr. Kuznets for permission to draw upon and cite these results.

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These summary results suggest the existence of consumption competition between fresh lemons and canned lemon juice during the six-month period (May-October) when so-called summer lemons are marketed. As the price of fresh lemons advances, other conditions given and fixed, the consumers tend to shift from fresh lemons to canned lemon juice; and as the price of fresh lemons declines, other conditions given and fixed, the consumers tend to shift from canned lemon juice to fresh lemons. These tendencies reflect aggregate market experience for the country at large, although particular consumers or groups of consumers certainly may react otherwise. Yet, it is with total market effects that we are here concerned in the demand relations between fresh lemons and canned lemon juice.

To supplement the preceding results, we now consider the market-behavior relations between fresh lemons and frozen concentrated lemonade during the summer period when both types of products, fresh lemons and frozen lemonade concentrate, generally experience expanded sales reflecting seasonal temperature influences. Here, the per-capita household purchases of fresh lemons are related to the retail price of fresh lemons, the retail price of frozen concentrated lemonade, average summer temperature, and the availability of frozen concentrated lemonade in retail outlets. The time unit consists of the three-month period (April-June), followed by the three-month period (July-September), for each of the variables listed previously.

These authors mention the existence of some other species of the

genus *Leptocryptus* and *Leptocryptus* (Koy).
October 1911. *Leptocryptus* (Koy) is a small, slender, and

one of the most common species of the genus, and is found in the
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With the use of published monthly data on consumer purchases and prices, a market-behavior equation was developed and may be summarized as follows:^{1/}

A change of 10 cents per dozen in the retail store price of fresh lemons, by itself, with other factors held constant, is associated with an average change in the opposite direction of about 1.5 boxes of fresh lemons per 1,000 capita per three-month summer period.

A 3-cent change in the retail store price of frozen concentrated lemonade (6-ounce can), by itself, with other factors held constant, is associated with an average change in the same direction of about 2.5 boxes of fresh lemons per 1,000 capita per three-month summer period.

A change of 10° F. in the average summer temperature, by itself, with other factors held constant, is associated with an average change in the same direction of about 1.4 boxes of fresh lemons per 1,000 capita per three-month summer period.

^{1/} The corresponding statistical equation, fitted by the method of least squares, is as follows:

$$X_1 = -3.243 - 0.154X_1 + 0.840X_2 + 0.138X_3 - 0.076X_4; \bar{R} = 0.91;$$

(2.420)¹ (2.753)² (2.573)³ (2.786)⁴

figures in parentheses are t-ratios; the equation reflects a series of April-June and July-September three-month periods, respectively, for each of five geographical regions.

X_1 = Quantity of household consumer purchases of fresh lemons, per 1,000 capita per three-month period (in boxes).

X_1 = Retail store price of Y_1 (in cents per dozen).

X_2 = Retail store price of frozen concentrated lemonade (in cents per 6-ounce can).

X_3 = Average temperature in April-June and July-September, respectively (in degrees Fahrenheit).

X_4 = Measure of retail store availability of frozen concentrated lemonade in April-June and July-September, respectively (in per cent of retail stores).

These unpublished results for fresh lemons and frozen concentrated lemonade were developed by Dr. G. M. Kuznets from published data on consumer purchases collected by the Market Research Corporation. Again, the writer is indebted to Dr. Kuznets for permission to draw upon and cite these results.

A change of 10 points in the measure of retail store availability of frozen concentrated lemonade, by itself, with other factors held constant, is associated with an average change in the opposite direction of about 0.75 boxes of fresh lemons per 1,000 capita per three-month summer period.

These summary results confirm the view that, under average market conditions and for the country at large, not only are the consumer purchases of fresh summer lemons inversely related to their retail store price and directly related to the level of summer temperature--two demand-behavior characteristics known from earlier studies and market experience--but the results also suggest two additional market-behavior characteristics; consumer household purchases of fresh summer lemons and frozen concentrated lemonade are competitive in consumption demand, and as the availability of the frozen concentrated lemonade increases (or decreases) in retail stores, there also occurs a decrease (or increase) in the consumer household purchases of fresh lemons. Thus, from a market distribution as well as a price view, there appears to exist a tendency toward competitive interaction among fresh summer lemons and frozen concentrated lemonade.

These, as the other statistical results, do not prove the existence of certain economic tendencies; yet, the results do provide evidence on the issues under consideration and are not inconsistent with the hypothesis that during the summer months fresh lemons and frozen concentrated lemonade are competitive in consumer purchase behavior. Although other evidence of an opposite nature can be cited, that presented here may be received as sufficiently suggestive so that the lemon industry might well give careful consideration to the effects of both the short-run and long-run market interactions between fresh lemons and lemon-juice products.

A change of 10 points in the volume of retail trade available

fact has been suggested, in accordance with an average change in

the price of the goods of about 1.5% during the period.

It is to be noted that the period of the study is

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The economic-statistical relationships set forth and discussed above reflect the average situation during the period investigated. Thus, the results are generated by past market developments. Further, the results reflect average tendencies from a mixture of short-run seasonal and long-run changing trend influences, for each season has its own peculiarities as well as reflecting longer term trends. For short-run projections as well as analyzing the current situation, statistical relationships of the type considered above can be helpful. But for long-term projections, those results have various limitations and should be supplemented by other analyses, particularly when considering a "new" product as frozen concentrated lemonade which is subject to early accelerated market growth and consumer acceptance.

Juice Products Market Potential.--In the previous pages of this section, we discussed the economic-statistical demand situation with reference to lemon products and their relation to fresh lemons. As noted there, such analyses of economic relationships are short term in character. They reflect and are constrained by the market relationships prevailing during the period in which the statistical data are generated. For examination of the current situation and for projection over short periods into the future, such analyses are helpful particularly when used in conjunction with other market information.

Over longer periods of time in the future, uncertainties of varying magnitudes exist in the long-run basic determinants of demand. Among such determinants are population growth trends, age distribution, national and per-capita money income in real as well as current dollar terms, relative prices of competitive and complementary products, and particularly consumer tastes and preferences which are a function of a complicated set of influences not now fully understood by students of consumption and psychology.

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Although there are alternative methods of projecting long-term market potentials, the procedure followed here may be sketched in the following terms. First, we review the comparative trends in consumption disappearance of several products considered to be competitive in demand, at least partially so, with frozen lemonade. Then are reviewed some major long-term demand determinants, with consideration given to their projection into the future. With these materials as a basis, projections are set forth with respect to the long-term consumption-demand disappearance of frozen concentrated lemonade and total lemon-juice products.

It should not be necessary, although it certainly is advisable, to emphasize here that making long-term projections in the economic sphere is a highly treacherous activity and definitely more dangerous for those who believe and follow the projections than for those who make them. Yet, without projections of the sort made here, the investigation and report would be seriously incomplete from the view of those for whom the report is prepared and intended. Furthermore, the bases of the projections are set forth so that those who are interested may vary them and adjust the results accordingly or even conjure their own projections as they so desire.

There is some doubt as to what prepared cold drink beverages are in fact competitive in demand with frozen concentrated lemonade, and an even more difficult question concerns the varying degrees of competition among the several products. Lemonade is more of a speciality item than a staple or necessity. Further, its seasonality of consumption and its demand sensitivity to higher ranges of summer temperature may well be greater than for other cold drink products. Yet, for comparative purposes, the consumption-disappearance trend of frozen concentrated lemonade may be contrasted with items as carbonated beverages, fermented malt liquor, frozen concentrated orange juice, and frozen concentrated grape juice.

Each of these drink products has a different background and history and has in large part been influenced by differential impacts of economic and demand development. Carbonated beverages, for example, have a long statistical record back to 1849 when the consumption rate is estimated to have been 1.6 bottles per capita per year compared with a rate of 175 bottles per capita per year now. Fermented malt liquors, generally referred to as beer and ale, have even a longer historical record, but their long-term consumption development was made subject to prohibition legislation and the current trend begins with 1933-34. Frozen concentrated lemonade and orange juice, as well as grape juice, reflect postwar developments.

With these diverse backgrounds, there is the question as to how the various products may be compared in terms of production-disappearance trends. For purposes of comparison here, the respective rates of the products are first set forth below in terms of per-capita index numbers, with the base (100) for each product varying as follows: the base for fermented malt beverages is set at 1933-34 when legal prohibition was dropped; the base for carbonated beverages is set at 1933-34 to compare with fermented malt beverages and also not to delve too far back historically; and the bases for frozen lemonade, orange juice, and grape juice are set at years near when those products were introduced in volume and for which records of consumption are available. With these specifications, the indexes are as set forth in the following table:

Per-Capita Indexes of United States Consumption Disappearance
of Selected Beverage Products

Year	Taxpaid with- drawals of malt beverages (July-June)	Consumer household purchases (October-September) of frozen concentrated			Carbonated beverages (calendar year)
		Orange juice	Grape juice	Lemonade	
per-capita indexes; base (100) varying as indicated					
1934-35	100				100
1935-36	115				116
1936-37	129				172
1937-38	125				211
1938-39	119				236
1939-40	121				278
1940-41	120				314
1941-42	137				418
1942-43	153				396
1943-44	172				434
1944-45	179				461
1945-46	184				417
1946-47	177				415
1947-48	181				473
1948-49	176	100			515
1949-50	168	248			508
1950-51	165	386	100	100	495
1951-52	165	644	157	210	510
1952-53	163	664	193	275	545
1953-54	162	788	212	262	556
1954-55		870	237	327	546

Source: Based on data in Table 20.

Year	Month	Day	Time	Location	Remarks
1941	Jan	1	10:00	San Francisco	Arrived
1941	Jan	2	10:00	San Francisco	Departed
1941	Jan	3	10:00	San Francisco	Arrived
1941	Jan	4	10:00	San Francisco	Departed
1941	Jan	5	10:00	San Francisco	Arrived
1941	Jan	6	10:00	San Francisco	Departed
1941	Jan	7	10:00	San Francisco	Arrived
1941	Jan	8	10:00	San Francisco	Departed
1941	Jan	9	10:00	San Francisco	Arrived
1941	Jan	10	10:00	San Francisco	Departed
1941	Jan	11	10:00	San Francisco	Arrived
1941	Jan	12	10:00	San Francisco	Departed
1941	Jan	13	10:00	San Francisco	Arrived
1941	Jan	14	10:00	San Francisco	Departed
1941	Jan	15	10:00	San Francisco	Arrived
1941	Jan	16	10:00	San Francisco	Departed
1941	Jan	17	10:00	San Francisco	Arrived
1941	Jan	18	10:00	San Francisco	Departed
1941	Jan	19	10:00	San Francisco	Arrived
1941	Jan	20	10:00	San Francisco	Departed
1941	Jan	21	10:00	San Francisco	Arrived
1941	Jan	22	10:00	San Francisco	Departed
1941	Jan	23	10:00	San Francisco	Arrived
1941	Jan	24	10:00	San Francisco	Departed
1941	Jan	25	10:00	San Francisco	Arrived
1941	Jan	26	10:00	San Francisco	Departed
1941	Jan	27	10:00	San Francisco	Arrived
1941	Jan	28	10:00	San Francisco	Departed
1941	Jan	29	10:00	San Francisco	Arrived
1941	Jan	30	10:00	San Francisco	Departed
1941	Jan	31	10:00	San Francisco	Arrived

Although each of the beverage products considered above has its own trend, each has trended upward. The per-capita index for carbonated beverages has continued to go up in contrast with the per-capita index for fermented malt liquors which has failed to hold the record levels attained during the five years following World War II.

The phenomenal trend of frozen concentrated orange juice is reflected in its per-capita indexes in the preceding tabulation. This is perhaps one of the most outstanding production-marketing developments in the food industry during the 20th century. But the record so far attained by frozen concentrated lemonade is also an enviable one, particularly so for a highly specialized item. In fact, in terms of relative growth, the historical performance of frozen concentrated lemonade, in its first five or six years, surpasses the corresponding historical performance of the other beverages (excepting frozen concentrated orange juice) in their first half-dozen years of recorded development. Thus, in comparative and relative terms, the statistical record of market penetration attained by frozen concentrated lemonade is a strong one when compared with other specialty beverage products, excluding frozen concentrated orange juice.

The market experience of the several products may be reviewed again but now on a somewhat different basis. If we consider the developments beginning in 1950-51, the record unfolds as in the following tabulation:

United States Per-Capita Consumption Disappearance
of Selected Beverage Products

Year	Taxpaid withdrawals of malt beverages (July-June) barrels	Carbonated beverages consumption (calendar year) bottles	Consumer household purchases (October-September)		
			Frozen concentrated orange juice boxes ^{a/}	Frozen concentrated grape juice gallons	Frozen concentrated lemonade boxes ^{b/}
1949-50	0.562	162.0	0.07883	0.00676	--c/
1950-51	0.550	158.0	0.12247	0.01019	0.003848
1951-52	0.550	162.7	0.20449	0.01596	0.008071
1952-53	0.543	174.0	0.21086	0.01964	0.010459
1953-54	0.542	177.5	0.25028	0.02158	0.010063
1954-55		174.2	0.27598	0.02417	0.012581
per-capita indexes, 1950-51 = 100					
1950-51	100	100	100	100	100
1951-52	100	103	167	157	210
1952-53	99	110	172	193	275
1953-54	98	112	204	212	262
1954-55		110	225	237	327
1955-56					

a/ Equivalent packed boxes of fresh oranges.

b/ Equivalent packed boxes of fresh lemons.

c/ Data for complete year not available.

Source: Based on data in Table 20.

From the above tabulation may be noted that, since 1950-51 when frozen concentrated lemonade was introduced in any substantial amount for which household consumption data are available, it has grown at a faster rate than the other juice products listed. In substantial part that reflects the behavior of a

Table 1. Comparison of fresh and frozen lean beef

Item	Fresh	Frozen	Losses	Gain	Net
Weight	100.0	100.0	0.0	0.0	0.0
Water	75.0	75.0	0.0	0.0	0.0
Protein	20.0	20.0	0.0	0.0	0.0
Lipid	5.0	5.0	0.0	0.0	0.0
Minerals	0.5	0.5	0.0	0.0	0.0
Carbohydrate	0.5	0.5	0.0	0.0	0.0
Total	100.0	100.0	0.0	0.0	0.0

1. The above table is based on the assumption that the composition of fresh and frozen lean beef is identical. This is not necessarily true, but it is a reasonable approximation for the purpose of this study.

2. The losses and gains are calculated as a percentage of the original weight of the fresh beef.

3. The net result is zero, indicating that the composition of fresh and frozen lean beef is identical.

from the above table, it can be seen that the composition of fresh and frozen lean beef is identical. This is not necessarily true, but it is a reasonable approximation for the purpose of this study.

The losses and gains are calculated as a percentage of the original weight of the fresh beef. The net result is zero, indicating that the composition of fresh and frozen lean beef is identical.

"new" product which has been favorably accepted by the public. Yet, frozen concentrated grape juice is about the same "age" as frozen concentrated lemonade, although the former did not grow as rapidly as lemonade. Thus, so far the rate of market penetration and consumer acceptance of frozen concentrated lemonade has been certainly near historic for that type of a specialty product.

With the above sketch of historical trends in the production disappearance of various beverage products, we now go forward with consideration of projections. In this respect it is necessary to outline the basic determinants involved and premises on which they are considered. Here, we are faced with the future trend in population and its structure, the course of gross national product and its related disposable personal income, and the changeable and changing pattern of consumption and consumer preferences.

The projection of the national population numbers cannot be made with confidence, particularly in view of developments during the period of the past two decades with its population upsurge.^{1/} The population outlook to many is now different from what it appeared in the 1920's and 1930's. Then, with birth rates falling as they had for two centuries, it was widely thought that by 1975-1980 our national population would have reached its peak. But, unexpectedly, the long downward trend in birth rates was reversed; shortly after 1940, a marked upward turn in births set in. In the emergency atmosphere of war and postwar adjustment, this new development was little noticed until toward the end of the 1940's. As this upward trend was sustained in recent years, many have come to the view that a new and radically different population prospect is

^{1/} Hoos, Sidney, and Varden Fuller, Trends and Prospects: Deciduous Fresh Fruits (Berkeley: University of California, Division of Agricultural Sciences, Agricultural Experiment Station, April, 1955), 122p. (Giannini Foundation Mimeographed Report No. 176.) Processed.

emerging. But it is, of course, premature to know with confidence how stable is the new and recent trend in population.

Barring catastrophic events, we can anticipate certain developments about the national population between now and, say, 1975. Most of those who will be parents between now and then are already born. In fact, from now until **around** 1965, most children will be born to parents whose birth occurred in the depression years. Since that was a decade of low birth rates, it follows that the limited childbearing population between now and 1965 will impose limits on the number of births even if family size does rise and remain high. The number of women in the 20 to 39 age group will remain about constant until after 1965 at which time the numerous births of 1945-1955 will commence to enter that age category. There will be the potential for a really explosive population upward surge after 1965 should early marriage and large families be popular at that time.

The projections of the national population may be at different degrees of high, depending on whether one assumes the continuance of recent birth rates or a gradual return to the prewar level, or an even more extreme assumption--that births might drop low enough to fit the long-time prewar trend line. These national population projections to 1975 may be set at the following levels: high, 230,000,000; medium, 220,000,000; and low, 210,000,000.

Along with the growing numbers of consumers, the capacity for gross consumption has also risen. As our economy has grown more productive, higher levels of money and real income have been generated in the hands of consumers. Greater investment in capital goods, technological progress, and a more highly skilled labor force are all important factors which, combined with relatively full employment in recent years, have had their influence on our enhanced ability to produce and consume. The prospects are favorable to a continuation of this expansion in the next two decades.

The gross national product, all goods and services produced by the United States economy, increased from \$104,000,000,000 in 1929 to \$365,000,000,000 in 1953, or by $3\frac{1}{2}$ times. The physical output of the nation has not, however, really expanded to such a large extent. The 1953 figure of \$365,000,000,000 contains a substantial amount of inflation because 1953 prices were about 65 per cent higher than those of 1929. In terms of constant dollars, using the 1947 price level as a standard, the comparison becomes about \$149,300,000,000 for 1929 and \$306,600,000,000 for 1953, or an increase of 105 per cent over the period. This increase was not due merely to a larger population. Even in per-capita terms, the real output of the United States economy has increased by almost three fifths from 1929-1953. And the real income of individuals also rose during the period, the increase in per-capita real income before taxes being about 60 per cent although higher taxes have whittled the increase down to 44 per cent.

Several public and private agencies have made long-range estimates of the development of the American economy. These estimates, though different in particulars, agree that the future poses a great potential for economic growth. The President's Materials Policy Commission, for example, forecasts a 100-per cent rise in production from 1950-1975. With the prospect of more than 200,000,000 persons in the United States by 1975, this forecast implies a gross national product of about \$2,650 per capita, which is 52 per cent higher than the 1950 figure. This can be considered as an indication of the nation's increasing economic strength, but it does not provide an estimate of consumer purchasing power. To obtain this we must examine another measure--per-capita disposable income.

During the past 30 years, per-capita disposable income has averaged about 75 per cent of per-capita gross national product. However, this figure is affected by the relatively lower tax rates of the 1930's, which we are unlikely

to experience again in the foreseeable future. In view of the high defense expenditures now **incurred** by the federal government and their probable continuance for the next few decades, it seems reasonable to expect a corresponding maintenance of present high taxes. Thus, the 75 per cent of gross national product left in the hands of consumers for their disposal seems a little too generous. In fact, during the last five years, this proportion has averaged only 71 per cent due to the higher taxes necessary to support the defense establishment. Assuming no tax increases but only a maintenance of the present structure in 1975, per-capita disposable income should be about 48 per cent higher in 1975 than it was in 1950, or 41 per cent higher than the level of 1953.

A growing population with rising incomes strongly implies the prospect of vigorous markets for consumer goods in the years to come. How much significance is there in such prospects for food demand and particularly for fruit beverages?

We know generally that, when people in low-income categories obtain an increase in income, they may spend as much as one half of their additional income on food. But in the higher income categories, an increase in income has much less effect on food demand--perhaps no more than 10 per cent of increased incomes in these categories is spent for food. It is generally accepted in the United States--all food commodities and all income groups combined--that the additional outlays for food which accompany increases in income are in the vicinity of 20 to 25 per cent of the income increase. That is to say, in other words, that for each dollar of additional disposable income in the hands of consumers 20 to 25 cents will be spent for more food. The income reaction is not the same for all food commodities--some will increase more than the over-all average, some less, and some may not increase at all. Moreover, as is logical to expect when the general income position of the economy becomes even more favorable, the proportion of additional income dollars spent on food will decline.

With the potentials of population growth and income rise that are now in prospect, it is expected that the demand for food by 1975 may very well be 50 per cent higher than in 1950. This results from an estimated population growth of 36 per cent between 1950 and 1975, accompanied by a 10-per cent increase in per-capita food demand which is based on the expectation of higher incomes.

How much of this increase in total food demand can we expect to be channeled into fruit juices? This question is almost impossible to answer precisely. Demand for individual items tends to fluctuate much more from year to year than that of broad classes of items. Thus, though total food consumption--or possibly even total fruit consumption--may exhibit a fairly steady trend, there is much interchange within the group such as a substitution of margarine for butter, peaches for apples, etc. It may be helpful, nevertheless, to see how consumers have behaved in regard to fresh and processed fruits in the recent past. From this we may be able to draw some indications about how they are likely to spend incomes in future years.

In the spring of 1948, the U. S. Department of Agriculture made a nationwide survey of the food consumption of urban families.^{1/} It was found that fruit took 8 cents of the consumer's food dollar, and 5 of these 8 cents was spent on noncitrus fruits. Of the total expenditure for fruits other than citrus, about 62 per cent was spent on fresh fruit, 26 per cent on canned fruit, 5 per cent on canned juices, and the remainder on frozen and dried products.

There were pronounced seasonal differences in the consumption of fruit. Also, there are differences in food consumption from one part of the country to another, but most of these are in foods other than fruit. There is, however, some indication that southern families consume less frozen and canned fruits

^{1/} U. S. Department of Agriculture, Food Consumption of Urban Families in the United States (Washington: Govt. Print. Off., 1955). (Agricultural Bul. No. 132.) Also, U. S. Department of Agriculture, Fruit Selections of City Families (Washington, D. C.: 1950), 17p. Processed. (Commodity Summary No. 9.)

and juices than those of other regions. To some extent, this is a reflection of the lower per-capita income level of the South.

Income has a very important influence in determining consumer choices among various foods. Obviously, persons with higher incomes can afford to buy more food than low-income groups. For example, the group of urban families in the nationwide survey with incomes between \$1,000 and \$2,000 spent \$17 a week for food in the spring of 1948 compared with \$31 by the group with incomes between \$5,000 and \$7,500.

The increase in food outlays by higher income groups tends to be in the form of higher quality, higher priced items, more processed foods, and more eating away from home in restaurants. All of this indicates that the food purchases of high-income groups differ from those in low-income groups not so much by an increase in quantity but rather by a different selection of foods.

Among the food commodities to which consumers respond most readily, if they have the incomes, are frozen and fresh fruits. The 1948 survey indicated that the quantity of these items consumed in the home can increase as much as 3 per cent with 10 per cent higher incomes. Dried fruits, on the other hand, tend to be less important to the higher income families, and canned fruit consumption increases with incomes up to about \$3,000 per year (1948 price level) beyond which point it tends to level off.

American families do not have rigid and fixed consumption habits and patterns. This lack of rigidity is perhaps one of the most outstanding and significant features of our economy. The great changes that have occurred in our manner of living within recent decades have had their impact on every phase of economic life. The changes in food needs and preferences are certainly not the least important of these impacts.

Where formerly our working force in many industries and occupations was engaged in energy-consuming physical labor, we now use machines that consume other forms of energy than food. In consequence, an increasingly large proportion of our occupations are sedentary. Centrally heated offices, factories, and homes have meant that less energy is needed to maintain body temperatures. At the same time, people are apparently becoming more weight conscious. All of these developments mean a decrease in the need for energy-rich foods.

Yet, the capacity of the human stomach and the physiological appetite level remain much the same. We continue to consume about the same total poundage of foodstuffs per capita as we did half a century ago. The adjustment that has taken place is to substitute foods that have appetite appeal and nutritional components other than carbohydrates for part of our previous energy-rich diets.

This shifting in the composition of the average diet is a gradual process likely to continue for many years to come. In addition to the factors that were mentioned above, a further influence in the same direction is the growing numbers and proportions of people in the older age categories. In coming years it is expected that the number of persons aged 65 and over will increase almost twice as rapidly as the total population. This, of course, is in consequence of improvements in medical science that have increased survivals into the older age categories.

Decreased need of energy-rich diets by older people and by a population that has less arduous physical work to do is a matter that should have far-reaching significance for the fruit industries. Fruits are a very satisfactory substitute for foods that are high in carbohydrate. The role which could be played by lemon-juice products, particularly frozen concentrated lemonade, in this changing pattern of food consumption depends in large part on the manner

in which the lemon products industry takes advantage of the situation; the potential will exist, but whether it will be realized can only be conjectured.

When we consider projection of consumption rates for frozen concentrated lemonade, we are faced with a special type of problem. Making projection of consumption rates for a "new" product, particularly one which apparently "caught on," is a different type of problem from one of making projections for an "old" long-time established product. For the "new" product, the early growth factor is significant. In relative terms the "new" product can be expected to reflect a strong growth factor aside from population and income effects but due to market penetration and extension during the earlier years. Then, a "leveling out" often prevails as the product becomes established. This type of development may be expected with respect to frozen concentrated lemonade.

To some observers the projections set forth below may seem unnecessarily conservative and to others the rates may seem grossly overoptimistic. Which view is valid only time will tell. Yet, for the purposes of this report and taking a view of "reasonableness" in light of the complicated setting of price relationships and consumer preferences which have an impact on the rates, we shall go forward with the estimates set out in the following tabulation.

Now we are ready to bring together the several strands of projections to note what their combined outcome suggests in terms of market potentials for frozen concentrated lemonade. But first it is necessary to realize that the projections are not predictions; rather, they are indicators of potential developments in light of historical experience and considered likelihood as to the future of the United States economy.

Factor		1955 base	Range of projections to 1975		
			High	Medium	Low
Population (eating out of civilian supplies)	Millions	164.4	230	220	210
	Per cent	100	140	134	128
Disposable personal income, per capita (in 1955 constant dollars)	Dollars	1,630	2,700	2,280	1,860
	Per cent	100	166	140	114
Disappearance-consumption rate, per capita, of frozen concentrated lemonade (household use)	Gallons	0.065	0.120	0.100	0.08
	Per cent	100	185	154	123
Total disappearance-consumption of frozen concentrated lemonade (household use)	Thousand gallons	10,686	27,600	22,000	16,800
	Per cent	100	258	206	157
Disappearance-consumption rate, per capita, of lemon-juice products, including imports (in pounds fresh equivalent)	Pounds	2.2	4.0	3.3	2.6
	Per cent	100	180	150	120
Total disappearance-consumption of lemon-juice products, including imports (in pounds fresh equivalent)	Million pounds	361.68	920	726	546
	Per cent	100	254	200	150

These projections, in addition to being based on the population and income levels shown in the tabulation, also are based on assumed relations between increases in income and increases in consumption as well as premises that national productivity and employment generally reflect current peacetime conditions and that no marked changes occur in consumer's preference structure. Modification of the national economy, in light of accelerated national defense activities, for either a "hot" or "cold" war certainly would make invalid the projections. Under such conditions or other situations bringing forth a strong and discontinuous shift in the price structure and national economic relationships, projections of the type considered here would be inappropriate. But for the present type of peacetime conditions, anticipated to continue as noted above, the projections may be suggestive of the longer term market potential for lemon-juice products.

Operation of the Lemon Products Marketing Order.--On March 10, 1951, the California state marketing order for lemon products became effective. Thus, it is now about five years that the industry has had experience with the order. With such experience at hand, it is pertinent to review developments and activities under the order to provide a basis for evaluating its effectiveness in light of its objectives.

The order itself includes language which sets forth the objectives stated in broad and general terms. They include: to improve marketing conditions for lemon products; to prevent loss of income due to unstable markets; to provide benefits of industry-supported research; to conduct common sales promotion and market-development programs; and to eliminate "unfair trade practices" within the industry.

In the lemon marketing year 1950-51 when the products order was introduced, there was an unusually large supply of lemons for processing. In terms of the trade, a "big surplus" existed. It was in this setting that some proponents of the order visualized its primary objective as being one to equalize the burden of surplus disposal among the primary producers of lemon products. Other proponents visualize the primary objective of the order as being one to stabilize raw product prices, narrow their range of variability, and especially to prevent sharp breaks in raw product and manufactured product prices. And still other proponents had additional objectives in mind as volume stabilization and market expansion. The language of the order was written so as to permit such objectives, although not necessarily all at the same time.

The administrative structure and operation of the lemon products order is now briefly sketched as background material. (Those readers familiar with this material should skip this and the following several paragraphs.) The Lemon Products Advisory Board, composed of appointments by the California Director of Agriculture from industry nominations, recommends to and assists the Director

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with respect to the operation of the order. The Board's duties and powers include administration of the order; making recommendations to the Director concerning the order; receiving and reporting of order violations; recommending amendments to the Director; assisting the Director in the assessment and collecting of funds from the industry to finance the order's operation; collecting industry and market information; keeping records of meetings, operations, and decisions; and employing the personnel necessary to perform the Board's duties and to exercise its powers.

To provide information to the Board necessary for its operation, it requires all California processors dealing in lemons or lemon products to submit weekly reports on specified activities. This includes processors involved in the processing or selling of stabilization pool fruit or concentrate. The Board, in turn, makes weekly summaries of specified industry operations.

At the beginning of each marketing season and from time to time thereafter, the Board is required to examine the economic and marketing conditions affecting lemons and lemon products. On the basis of such information, a proposed statement on marketing policy is prepared which includes a recommendation as to the percentage of lemons acquired by processors to be designated as free and stabilization pool tonnages, respectively (the total of the free and stabilization percentages equals 100 per cent). The recommended percentages are reviewed by the Director who has the authority to approve or change them. Once the free-tonnage volume is established for any marketing season through approval of the Director, it cannot be reduced for that marketing season; nor can the free-tonnage percentage, once established, be reduced during that season "except as is required by changing crop conditions to derive the free-tonnage volume by applying the free-tonnage percentage to the total tonnage of lemons for processing actually

acquired or estimated to be acquired by all processors during such marketing season."^{1/}

Free-tonnage lemons held or acquired by a processor may be disposed of by him in any way he desires. But stabilization pool lemons acquired by a processor are held by him for the account of the Board and subject to restriction of the order in the form of fresh lemons or in processed form if the latter has been approved by the Board,

Without prior approval of the Board, the processing of lemons in the stabilization pool is prohibited. The Board, at the beginning of each marketing season and from time to time thereafter, considers what products are to be approved and what portions of the available tonnage in the stabilization pool are to be used for the respective products.

During the period from October 1 to a fixed date between March 1 and May 30, the Board may authorize lemons to be sold from the stabilization pool for use as free tonnage. That period may be extended by the Board if, in its opinion, the price stability of lemons or lemon products is not unduly affected. However, no lemons from the stabilization pool may be authorized for sale by the Board at any time if free-tonnage lemons are available on the open market at equal or lower prices than the price set by the Board for stabilization pool tonnage. An exception is that lemons may be sold from the stabilization pool at a lower price for manufacturing into lemon oil, pectin or other peel or pulp products, and such restricted use of the juice therefrom as the Board may require.

The Board may at any time set or change the price for stabilization pool tonnage, although the order specifies that Board action with respect to changing the price should not endanger the "price stability" of lemons or lemon products.

^{1/} California State Bureau of Markets, Marketing Order for Lemon Products, as Amended, Effective September 28, 1955 (Sacramento: State Print. Off., September, 1955), 26p. Processed.

In addition to the aggregate volume control sketched above, the Board may recommend the setting or changing of minimum grade or size regulations for lemons acquired by processors, or for the stabilization pool, or for any particular lemon products. Here, as for other provisions, final decision is with the California Director of Agriculture.

Other provisions in the order need not be sketched here for the purposes at hand. The brief sketch given above, nevertheless, clearly indicates that the Board has or can have firm control over the volume of California lemons processed in total or even in specific products. Yet, such control is limited to California lemons available for processing. Lemons available for processing in or from other states or imported lemon stock for products from other countries are beyond the control of the Board. Because of such leakages, the Board in fact has less control than may be thought by those not appreciative of the realized and particularly the potential supply sources outside of California.

The operation of the order in terms of free and stabilization tonnage percentages, as well as stabilization pool prices, is set forth in the tabulation on the following page. In 1951-52, the first full year of the order, the stabilization pool percentage was initially set at 65 per cent and by steps reduced to 31 per cent at the end of the season; in 1952-53 the stabilization pool percentage began at 35 per cent and the season ended with no stabilization tonnage; in 1953-54 the stabilization was set and maintained at 40 per cent; in 1954-55 the stabilization pool tonnage was originally set at 75 per cent and had been lowered to 58 per cent by the end of the season; and in the 1955-56 season, the beginning percentage for the stabilization pool was 42.5 per cent, was dropped to 30 per cent in December, 1955, and reduced again to 27 per cent in April, 1956.

In addition to the agency's volume control schedule shown, the Bureau may

be required to submit an estimate of minimum quantities of certain commodities for the
the period of the year, or for the stabilization pool, or for any other
the same period. Now, as for other commodities, there is a certain amount of

the Bureau's estimate of minimum quantities.

Other provisions in the order have not been included here for the following

reasons. The Bureau's estimate shown above, however, is clearly indicated that

the Bureau has an estimate of the volume of California's production

of certain commodities in the order in question. This, and control is limited

to California's production for the period. In the event of a shortage, the Bureau

may have to make an estimate of the amount of the shortage for other commodities

which are beyond the control of the Bureau. Because of such factors, the Bureau

is not able to estimate the amount of the shortage for other commodities of the

order and to estimate the amount of the shortage for other commodities of California.

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California Marketing Order for Lemon Products, as Amended, Free-Tonnage and Stabilization Pool Percentages

For marketing season	Date of order	Free-tonnage percentages	Stabilization pool tonnage percentages
		per cent	
1950-51	3-16-51	45	55
1951-52	10-23-51	35	65
1951-52	3-21-52	40	60
1951-52	5-22-52	55	45
1951-52	6-27-52	62½	37½
1951-52	7-18-52	68	32
1951-52	10-24-52	69	31
1952-53	11- 3-52	65	35
1952-53	4- 1-53	72	28
1952-53	5-11-53	78	22
1952-53	6-15-53	85	15
1952-53	7- 1-53	100	0
1953-54	10- 2-53	60	40
1954-55	9-28-54	25	75
1954-55	3-24-55	33	67
1954-55	4-20-55	36	64
1954-55	5-24-55	40	60
1954-55	6-21-55	42	58
1955-56	10- 3-55	57½	42½
1955-56	12-12-55	70	30
1955-56	4-17-56	73	27

Stabilization Pool Prices

Approval date of price change	Price per standard ton, f.o.b. packing house
	dollars
10-23-51	62.50 ^{a/}
1-14-52	78.50 ^{b/}
7-18-52	90.00 ^{b/}
8-25-52	90.00 ^{b/}
11-17-52	90.00 ^{c/d/}
10- 6-53	85.00 ^{e/}
9-28-54	60.00 ^{e/}
10- 6-55	60.00 ^{f/}
5-28-56 ^{g/}	55.00 ^{f/}

^{a/} No advertising program in effect.

^{b/} Includes \$12.50 per ton C.L.I. (California Lemon Institute) and L.P.A.B. (Lemon Products Advisory Board) advertising.

^{c/} Includes \$13.50 per ton C.L.I. and L.P.A.B. advertising.

^{d/} Price allowance for early delivery: November and December, 1952, and January, 1953, \$5.00 per standard ton; and February, 1953, \$2.50 per standard ton.

^{e/} Excludes \$15.00 per ton C.L.I. and L.P.A.B. advertising.

^{f/} Excludes \$14.00 per ton C.L.I. and L.P.A.B. advertising.

^{g/} L.P.A.B. meeting date.

Source: Information from California State Bureau of Markets.

Exhibit A - List of Organizations

Organization	Address	City	State	Zip
1. American Red Cross	1234 Main St.	New York	NY	10001
2. United Way	5678 Elm St.	Los Angeles	CA	90001
3. Salvation Army	9101 Oak St.	Chicago	IL	60601
4. National A.A.U.P.	2345 Pine St.	San Francisco	CA	94101
5. National A.A.U.P.	6789 Cedar St.	Philadelphia	PA	19101
6. National A.A.U.P.	1011 Birch St.	Boston	MA	02101
7. National A.A.U.P.	4321 Maple St.	Washington, D.C.	DC	20001
8. National A.A.U.P.	8765 Walnut St.	San Antonio	TX	78201
9. National A.A.U.P.	2109 Spruce St.	Portland, ME	ME	04101
10. National A.A.U.P.	5432 Hickory St.	Seattle, WA	WA	98101
11. National A.A.U.P.	9876 Ash St.	Denver, CO	CO	80201
12. National A.A.U.P.	3210 Sycamore St.	Minneapolis, MN	MN	55401
13. National A.A.U.P.	7654 Juniper St.	St. Paul, MN	MN	55101
14. National A.A.U.P.	1098 Willow St.	Madison, WI	WI	53701
15. National A.A.U.P.	4567 Cypress St.	Indianapolis, IN	IN	46201
16. National A.A.U.P.	8901 Dogwood St.	Columbus, OH	OH	43201
17. National A.A.U.P.	2345 Elm St.	Cincinnati, OH	OH	45201
18. National A.A.U.P.	6789 Oak St.	Cleveland, OH	OH	44101
19. National A.A.U.P.	1011 Pine St.	Pittsburgh, PA	PA	15201
20. National A.A.U.P.	4321 Cedar St.	Butte, MT	MT	59701

Exhibit B - List of Organizations

Organization	Address	City	State	Zip
1. American Red Cross	1234 Main St.	New York	NY	10001
2. United Way	5678 Elm St.	Los Angeles	CA	90001
3. Salvation Army	9101 Oak St.	Chicago	IL	60601
4. National A.A.U.P.	2345 Pine St.	San Francisco	CA	94101
5. National A.A.U.P.	6789 Cedar St.	Philadelphia	PA	19101
6. National A.A.U.P.	1011 Birch St.	Boston	MA	02101
7. National A.A.U.P.	4321 Maple St.	Washington, D.C.	DC	20001
8. National A.A.U.P.	8765 Walnut St.	San Antonio	TX	78201
9. National A.A.U.P.	2109 Spruce St.	Portland, ME	ME	04101
10. National A.A.U.P.	5432 Hickory St.	Seattle, WA	WA	98101
11. National A.A.U.P.	9876 Ash St.	Denver, CO	CO	80201
12. National A.A.U.P.	3210 Sycamore St.	Minneapolis, MN	MN	55401
13. National A.A.U.P.	7654 Juniper St.	St. Paul, MN	MN	55101
14. National A.A.U.P.	1098 Willow St.	Madison, WI	WI	53701
15. National A.A.U.P.	4567 Cypress St.	Indianapolis, IN	IN	46201
16. National A.A.U.P.	8901 Dogwood St.	Columbus, OH	OH	43201
17. National A.A.U.P.	2345 Elm St.	Cincinnati, OH	OH	45201
18. National A.A.U.P.	6789 Oak St.	Cleveland, OH	OH	44101
19. National A.A.U.P.	1011 Pine St.	Pittsburgh, PA	PA	15201
20. National A.A.U.P.	4321 Cedar St.	Butte, MT	MT	59701

The following information was obtained from the State Bureau of Investigation, Department of Justice, Washington, D.C., on 10/10/68.

1. American Red Cross - 1234 Main St., New York, NY 10001.

2. United Way - 5678 Elm St., Los Angeles, CA 90001.

3. Salvation Army - 9101 Oak St., Chicago, IL 60601.

4. National A.A.U.P. - 2345 Pine St., San Francisco, CA 94101.

5. National A.A.U.P. - 6789 Cedar St., Philadelphia, PA 19101.

6. National A.A.U.P. - 1011 Birch St., Boston, MA 02101.

7. National A.A.U.P. - 4321 Maple St., Washington, D.C. 20001.

8. National A.A.U.P. - 8765 Walnut St., San Antonio, TX 78201.

9. National A.A.U.P. - 2109 Spruce St., Portland, ME 04101.

10. National A.A.U.P. - 5432 Hickory St., Seattle, WA 98101.

11. National A.A.U.P. - 9876 Ash St., Denver, CO 80201.

12. National A.A.U.P. - 3210 Sycamore St., Minneapolis, MN 55401.

13. National A.A.U.P. - 7654 Juniper St., St. Paul, MN 55101.

14. National A.A.U.P. - 1098 Willow St., Madison, WI 53701.

15. National A.A.U.P. - 4567 Cypress St., Indianapolis, IN 46201.

16. National A.A.U.P. - 8901 Dogwood St., Columbus, OH 43201.

17. National A.A.U.P. - 2345 Elm St., Cincinnati, OH 45201.

18. National A.A.U.P. - 6789 Oak St., Cleveland, OH 44101.

19. National A.A.U.P. - 1011 Pine St., Pittsburgh, PA 15201.

20. National A.A.U.P. - 4321 Cedar St., Butte, MT 59701.

As noted earlier, an important operating provision of the lemon products order is that the free-tonnage volume, once established, cannot be decreased during the marketing season. The objective of that provision, apparently, is to guard against a situation where the Board might increasingly restrict the flow of lemons into processing as the season progressed. Such a view has a sense of validity on the premise that, at the beginning of the marketing season, the Board has an accurate projection of the season's over-all supply and demand situation. Due to uncertainties and miscalculations, however, in the volume shipped fresh and particularly its distribution over the season in the import situation in the current and prospective markets, as well as in the size of the crop, the Board and industry does not have at the beginning of the season accurate projections of the total tonnage which could be processed.

The order requirement that the free-tonnage volume--once set early in the season--cannot be reduced during the season may encourage the Board initially to set the free tonnage conservatively with the view that if adjustments are necessary they can be made as the season progresses. That, in effect, is what happened during three out of four past full marketing seasons. The view may be expressed that if the order were amended so that the Board, with the approval of the Director, might increase or decrease--within permissible or available limits--the stabilization volume during the season (with corresponding changes in the free-tonnage volume), the Board might have less inducement initially to set the stabilization percentage unnecessarily high at the beginning of the marketing season. The currently effective order permits the free-tonnage percentage to be changed up or down during the season as changing crop conditions require, but the free-tonnage volume cannot be reduced during the season. By amendment the order might be changed to permit increased or decreased free-tonnage volume during the season as required by contingencies in addition to changing crop conditions. With an amendment of that type, the Board would have

somewhat more flexibility in its operations and, at the same time, permit the Board to tailor the size of the stabilization pool so as to accommodate the current and prospective situations as they develop.

Since the language of the order stresses "price stability" as a major objective, it is pertinent to review what has occurred with respect to prices and returns. The stabilization pool prices are those over which the Board has direct control; over other prices the Board has only indirect and partial influence. The record of stabilization pool prices is summarized in the preceding tabulation. The prices shown there are in terms of standard tons, f.o.b., packing house basis.

In connection with "price stability," there is the important question--stability for whom? It is valid that the stabilization pool prices have varied less over time than the stabilization pool percentages. But that may bear little on the question at hand. Is "stability" sought in consumer products prices, f.o.b. products prices, or prices paid by processors for lemons, or on-tree returns received by growers for lemons processed?

In comparison with other manufactured food products, consumer prices of lemon-juice products have been relatively stable. And in terms of f.o.b. prices, those of lemon-juice products also compare favorably with other processed fruits. Yet, at both the consumer and f.o.b. levels, the prices of lemon-juice products have not been markedly more stable than those of other processed juices, perhaps with the exception of processed orange juice.

In terms of the legislation on which the state lemon products order is based, there is the presumption that the "price stability" referred to in the order pertains primarily to grower prices and returns from processed lemons. In that context the evidence is mixed. It is true that, during several of the years of the order's existence, grower on-tree returns from processed lemons were at higher than previous levels. The extent to which that was due to the

order itself or due to the introduction and rapid market penetration of a new product, frozen lemonade concentrate, cannot be wholly untangled. Yet, it is likely that the effects of the order were substantial. But although higher grower on-tree returns from processed lemons were attained, if not maintained, substantial price stability to growers was not introduced. During the past five or six years, the relative variation in on-tree grower returns from processed lemons has not on the average been markedly less than in earlier periods. But such evidence may not be wholly convincing since it is impossible to know what the situation would have been had the order not been in effect during the recent years.

Whatever the reason, price stability to growers for processed lemons has not resulted in a significant manner as a result of the lemon products order. That may not, however, be serious. One may question the validity of "price stability" as a goal in itself. From the view of those who seek the decrease of uncertainty, price stability is an attractive goal. But price stability itself often can be attained only through the creation of other types of uncertainty which may even be less attractive than price instability.

From the view of growers and also processors and distributors, a more rational goal than price stability is income maintenance and growth. One may set forth the view that the operation of the order might be oriented in the direction of income effects rather than price effects. It is true that, when price oriented, the order's operation does have an impact on income. Yet, with income maintenance and growth as a direct orientation rather than an indirect one, a more basic and meaningful objective is established.

While commenting on the order and its operation, the question of interrelations between the stabilization pool percentages and prices recommended by the Board to the Director for approval may be considered. First, it may be noted that the stabilization percentages by themselves tell only part of the

story. The actual tonnages, resulting from the application of the percentages, are more meaningful as influences on products prices and the flow of lemons into processed products. Examination of the data suggests no definite and unique relation between the stabilization percentages and prices as they have behaved over time. During the first year of the order, there was a rough tendency for the stabilization pool percentages and prices to trend in opposite directions; but such tendency did not continue.

Control by the Board over both stabilization pool percentages and prices gives it a different type of influence than if only either the percentage or price were controlled. Yet, if the Board can change either the percentage or price, or both simultaneously, there is the burden on the Board of maintaining some appropriate relationship between the percentages (and corresponding volumes) and prices of the pool. But what is an "appropriate" relationship? In the language of the order, the "appropriate" relationship presumably is to be one consistent with "price stability," although the significance of income effects has been noted above.

When the stabilization pool percentage is decreased, assuming no revision in the projected crop or total volume available for processing, the effect is "to ease" the supply situation in lemons for products. This increased supply of lemons for products by itself tends to depress the market value of lemons for processing and, in more or less time, also the market value of lemon products. But if the pool stabilization price is maintained at a fixed level or increased while the stabilization percentage is decreased, the price effect tends to dampen the supply effect as far as "easing" the supply situation is concerned.

In effect there are several distinct economic situations with respect to relationships between stabilization pool percentages and prices. (Here, we premise that changes in the percentage or price are made for reasons other than

adjusting for a miscalculation in the projected volume of lemons available for processing.) Since the stabilization pool volume cannot be increased during a given marketing season, it can only be decreased or maintained at its initial level. Thus, varying the stabilization percentage can only ease the short-run (within the marketing season) supply situation. The order, however, permits the Board to raise or lower the stabilization pool price. Raising the pool price tends to raise the market value of processing lemons, and lowering the pool price tends to lower the market value of processing lemons--such effects being dependent on the existence of a situation where no open-market lemons are available at prices different from that of the stabilization pool. In other terms the effectiveness of the stabilization pool price, with respect to its impact on market developments, depends not only on the availability and current market price of free tonnage of California lemons but also of lemons from other states and imported supplies. Only when the Board does in fact regulate the total flow of lemons into processing does the stabilization pool price have full meaning and impact.

On the bases outlined above, the sets of relationships among the stabilization pool percentages and prices may be summarized as follows:

Stabilization pool		Effect on market supply
Percentage	Price	
(a) No change	Increase	Tightened
(b) No change	Decrease	Eased
(c) Decrease	Increase	?
(d) Decrease	Decrease	Eased
(e) Decrease	No change	Eased

As the individual marketing seasons are examined, case (a) is found to have occurred only once when the stabilization pool price was increased on January 7, 1952, while the pool percentage was maintained at its current level. Case (d) occurred in 1955-56 when both the stabilization percentage and price were decreased. The outcome of case (c) depends on the relative impacts of percentage and price changes for the stabilization pool; the market supply could be tightened or eased, or if the decrease in stabilization pool percentage were accompanied by an increase in the pool price just sufficient, there could result no net effect on the market supply.

The essential point is that every permissible combination of stabilization pool percentages (and corresponding volumes) and prices is unique in terms of actual or potential impact on market prices. In view of the practical difficulties of establishing appropriate relations between stabilization pool percentages and prices, some observers have suggested alternative methods of operation.

There is the view that the Board should not be concerned with or set a stabilization pool price; rather, the Board should set and change stabilization percentages only. If the Board decreases the stabilization percentage and thereby makes available an increased volume of processing lemons, they should--this view maintains--be sold by the Board to the highest bidder. Thus, rather than setting pool prices directly, the Board would through its control of the stabilization percentage affect only supply directly and then accept the price resulting from that supply and the prevailing market demand. Such a view may be coupled with the one noted earlier whereby the Board would be permitted to raise stabilization volumes in order to offset other types of miscalculations or uncertainties as well as in the size of the lemon crop.

Some detailed consideration has been given to stabilization pool percentages (and volumes) and prices. This was done not only because they are the primary price- and income-affecting provisions of the lemon products order but also because they probably are the least understood generally and certainly the most criticized. During the period of several years ago when the demand for processing lemons was strong and the supply situation was very tight, unsatisfied sources of demand viewed the operation of the stabilization pool as the basic root of difficulty. During the past year or so with a more or less comfortable supply situation, criticism of the supply control provisions of the lemon products order have been less prevalent and pointed. Thus, industry-wide attitudes toward the order and its provisions vary according to the stringency of the supply situation and the availability of lemons for processing.

As was noted earlier, some observers view the goals of the lemon products marketing order to include equalizing the burden of surplus disposal among the primary producers of lemon products. The order as it has operated may be interpreted as tending in that direction. Yet, the question may be and has been asked whether the order has any effect on equalizing the burden of supply shortages in those years when they occur. As presently written, the language of the order does not explicitly refer to that point.

If the supply situation were sufficiently tight without the control features of the order operating, the burden of supply deficit would be distributed among the industry participants as if there were no order in existence. In such a supply context, the order in its supply control provisions would be sterile or neutral. But when a relatively tight supply prevails through the effect of the order's stabilization pool features, the distribution of the impact from the created supply situation is related to the total acquisitions of processing lemons by the respective firms. In such a case firms bear the burden in relation to the California lemon tonnage which they have been able to

Some detailed consideration has been given to stabilizing pool resources.

wherever possible and increasing provision of the labor products of the pool
were assured that possibly one the local authorities, especially and certainly
not but undoubtedly during the period of several years, and when the demand
for increasing labor was strong and the supply situation was very tight, the
condition of demand, hence the operation of the stabilizing pool as
the basic need of stable supply, making the pool a more or less
controlled and stable situation, stabilization of a supply situation of
the form products have been both preserved and protected. Thus, turning
into activities towards the order and the pool as a very good and to the stabil-
ization of the supply situation and the pool for the purpose of preserving
the was noted earlier, some observations view the pool of the labor products
existing order to increase equilibrium, the demand of even as displaced demand, the
and the products of labor products. The order of these products may be
various, depending on that character. Yet, the question may be and has been
asked whether the order has any effect on equalizing the labor of supply
shortages in those years when they occur. As a secondary matter, the labor
it the order has any effect on equalizing the labor of
In the supply situation was sufficiently tight without the control fac-
tors of the order operating, the demand of supply, which would be distributed
among the industry participants as if there were no order in existence. In
when a supply exists, the order in the supply of labor products would be
stable or normal. But when a relatively tight supply exists, however the
effect of the order's stabilizing pool factors, the distribution of the labor
pool from the created supply situation is related to the total population of
processing factors by the respective firms. In such a case firms from the pur-
sue in relation to the California labor business which they have been able to

acquire unless they succeed in drawing upon supplies from other areas. To reach other results, either the order would have to be drastically amended or the competitive market structure of the industry would have to undergo substantial modification. Neither of such alternatives, particularly the latter, is a subject of relevance for the purpose of this report. Rather of relevance here is the operation of the order within the economic context and industry structure presently existing.

So far in this section, we have considered the lemon products order by itself as an independent, institutional vehicle for the lemon products industry. In terms of economic operation and effects, however, the order cannot be isolated from the rest of the lemon industry, including the fresh market sphere. In terms of economic interaction, lemon products and fresh lemon marketing, or in terms of supply and demand, lemon products and fresh lemons are interdependent parts of the same industry. What occurs in one sphere of the industry has carry-over effects to the other sphere either in the short run or in the long run.

From a strictly logical viewpoint, both the fresh and processed spheres of the lemon industry should operate under a single and the same marketing order on the premise that orders are to be in existence. For legal and institutional reasons, the fresh shipping part of the California-Arizona lemon industry operates under a federal marketing order, inaugurated in 1941, while the California lemon products part of the lemon industry operates under a California state marketing order. Yet, from the view of the California lemon industry at large, the economic objectives and operations of the two orders should be consistent with each other.

Within the present framework of operations, the seasonal and week-to-week flow of fresh shipments of fresh lemons from California-Arizona is controlled by the federal marketing order "prorate" committee representing the fresh

negative unless they occurred in the
market order market, either the order would have to be financially sound or
the company, no market structure of the industry would have to undergo sub-
stantial modification. History of such efforts, particularly the fact,
in a context of reference for the purpose of this report. History of reference
now is the operation of the order within the economic context and industry.

As for this section, we have considered the lemon products and the
market as an industry of institutions, which for the lemon products and the
fact, is based on economic of supply and demand, however, the order cannot
be isolated from the rest of the lemon industry, including the fresh market
order. In terms of economic institutions, lemon products and fresh lemon mar-
keting, or in terms of supply and demand, lemon products and fresh lemon mar-
keting, or in terms of the same market. What occurs in one sphere of the
industry has a direct effect on the other and vice versa in the short run as
in the long run.

When a market order is proposed, both the fresh and processed spheres
of the lemon industry should operate under a set of rules and the same marketing
order on the part of the order and vice versa in existence. For legal and practical
reasons, however, the fresh shipping point of the California lemon industry
and the California lemon products part of the lemon industry, however, under a Calif-
ornia state marketing order. Yet, from the view of the California lemon industry
and the California lemon products part of the lemon industry, however, under a Calif-
ornia state marketing order, the concept of order and operations of the two orders should
be consistent with each other.

Within the present framework of operations, the essential and well-known
flow of fresh lemons from California to the rest of the country is controlled
by the Federal Marketing Order "Federal Marketing Order" representing the fresh

lemon shippers. Prior to or early in the season, the committee surveys the crop prospects and investigates economic conditions. With such materials as a basis, a season marketing policy is prepared which sets forth the expected total crop and planned fresh shipments therefrom. As the season progresses and the size of the crop becomes more certain, and as economic conditions unfold and develop, the marketing policy statement is revised in light of the current and prospective situations. Weekly prorates are authorized to respective shippers with the intention that the sum of the weekly prorates during the season will aggregate to the planned seasonal total to be shipped fresh.

A significant aspect of the fresh lemon prorate is that the prices of fresh lemons are influenced by regulating the seasonal total and intraseason flow of fresh lemons to market. Although movement into products channels is considered, the prime attention is directed to the flow of fresh market shipments, their prices, and returns; prices and returns from lemon products are considered only indirectly. In other terms, the fresh lemon prorate does not directly grapple with the problem of allocating the total seasonal supply of lemons between the fresh and processed markets so as to attain clearly specified objectives of price and income returns from the entire crop. The fresh lemon prorate directs its primary attention to influencing the aggregate volume and particularly the week-to-week shipments of fresh lemons in view of price objectives; and the utilization distribution between the fresh and processed outlets is secondary.

As has been noted earlier, the market demand for fresh lemons tends to be "inelastic," that is, within the range of usual operations, smaller total shipments bring higher gross f.o.b. or on-tree returns than do larger shipments for given levels of consumer income, temperature, and prices of competitive products. For this reason the fresh lemon prorate committee has authorized for shipment to market seasonal totals less than the entire crop. Such a shipping

known shipwrecks. From so on early in the season, the committee surveys the crop prospects and investigates economic conditions. With such materials as a season working policy is prepared which sets forth the expected total crop and planned fresh shipments throughout the season. As the season progresses and the size of the crop becomes more certain, and as economic conditions change and thereby, the marketing policy statement is revised in light of the current and prospective conditions. Weekly progress and estimates are furnished to the committee with the intention that the sum of the weekly progress should equal the season's total. It is suggested that the planned season's total be slightly in excess.

A significant aspect of the fresh lemon revenue is that the prices of fresh lemons are determined by negotiating the seasonal total and increasing flow of fresh lemons to market. Although revenue into proceeds of lemons is considered, the primary attention is directed to the flow of lemons rather than to the prices and revenue. Prices and revenue from lemon products are determined only incidentally. In other words, the fresh lemon product does not directly control the prices of shipping the total seasonal supply of lemons between the fresh and processed markets as is the case in other agricultural products. The price and income returns from the entire crop. The fresh lemon product attracts the primary attention in determining the aggregate volume and quality of the fresh-lemon shipments of fresh lemons in view of which the relationship between the fresh and processed markets is determined only incidentally.

As has been noted, when the market demand for fresh lemons tends to be "inelastic," that is, within the range of usual variations, smaller total shipments bring higher prices, i.e., on one side returns than the larger shipments for given levels of consumer income, temperature, and prices of competitive products. For this reason, the fresh lemon product committee has recommended for shipment to market seasonal totals less than the entire crop. Such a shipment

policy and practice is followed, in the minds of some, to prevent "breaking the market," but a more basic reason is to increase seasonal total gross income from the fresh market.

The difference between the crop and total fresh shipments has traditionally been left as a residual to be absorbed by the products outlets. In the prewar and immediate postwar years when the products market was dominated by low-value lemon products, returns were negligible or very small from the products. But beginning in 1950 as the higher valued juice products (frozen concentrated lemonade and single-strength lemon juice) grew in volume, products returns increased to record levels.

With the introduction of the California lemon products order, the products part of the industry put itself in a position of controlling the flow of California lemons available for processing into various products. Such control was oriented toward regulating the flow of processing lemons to the higher valued juice products so as to prevent "breaking their market price." However, the evidence is not clear whether such regulation was effectuated so as to bring the maximum return from processed lemons; the market experience and resulting statistical data for the higher valued juice products are not yet adequate to provide a necessary base for testing statistically the nature of the economic outcome.

The allocation of the lemon crop to fresh market through the fresh lemon prorate has resulted in somewhat stable year-to-year seasonal fresh shipments in recent years. But this has occurred in the face of expanding national population, production, employment, and income; thus, in relation to the changing economic status of the country at large, fresh lemon consumption has lagged behind. On the other hand, the growing availability and consumption of lemon-juice products manufactured from California and other domestic lemons, as well as imported lemon stock, when added in equivalent units to fresh lemons results in an expanding per-capita consumption of lemons and lemon juice.

Since the lemon products outlet must absorb in some way the crop residual not shipped fresh, the lemon products order committee is faced with a very complex situation. It has no complete control over the volume of processing lemons available, and since it also has no control over imports or domestic supplies for processing from outside California, it is faced with tailoring the flow of California processing lemons into juice products under a highly unstable situation. If the flow of California lemons regulated into juice products is restricted so as to enhance their price and returns, importations of lemon-juice stock are encouraged and domestic plantings in new as well as older areas are promoted. On the other hand, if supply regulation of products manufactured from California lemons were not practiced, products prices returns would likely sag; and although importations and new plantings would be discouraged to an extent, the potentially lower priced lemon-juice products would generate even greater consumption competition with fresh lemons and be subject to adverse criticism from fresh lemon shippers.

Thus, the nature of the situation in the institutional and economic context within which the lemon products order operates is such that it is subject to scrutiny certainly and perhaps denunciation no matter what course of action is followed. Even though some and potentially an increasing amount of such adverse criticism might be irrational (assuming that the present type of order is in operation), the effects on industry relations and operations are not of long-run benefit to those concerned. Rather, what is called for is more constructive consideration of the basic problems facing the lemon industry.

These problems include recognition of the interlocking of the fresh and products markets and the corresponding operation of the two orders in terms of economic objectives and effects--if not in administrative and legal terms; and utilization of the crop and its allocation between the alternative outlets so

as to approach maximum income returns from the total crop--subject to the constraints of consumption competition between fresh lemons and juice products, effects of imports and their potential growth, effects on new plantings in virgin and established areas, and the long-run output and income position of the industry in light of the nation's growth and economic expansion. Essential characteristics of these problems have been considered in various parts of this report.

Surveying the Lemon and Lemon Products Situation

The previous sections were concerned with presenting a review of industry trends and discussing several significant problems and potential developments facing the lemon and lemon products industry. The reader may derive from the earlier sections implications and conclusions which bear upon the current and particularly the future economic status of the industry.

In this section we take a broad over-all look at developments as they impinge upon the relationships between the fresh lemon and products markets. This is necessary since a significant problem facing the lemon industry concerns the relationships of and interactions between the fresh and products markets. The bases for the implications and indications of the survey in this section, hence, are set forth in the preceding sections, the substance of which the reader advisably should be familiar with in order to follow the necessarily brief survey presented here.

Many in the trade believe that their primary interest is in only the fresh market or only the products market. The validity of such views is questionable even in the short run. The fresh and products markets, in fact, are so closely bound together with respect to direct interaction that in reality they comprise a single economic market. Thus, when considering the general economic situation in the lemon industry, there does not exist a separate fresh lemon production marketing problem and a separate lemon products problem. In terms of an economic and marketing framework, there exists a set of closely interlocked problems.

Our survey may be considered in terms of events when significant market relationships were evident. During the hot weather period of July and August of 1955, the volume of shipments absorbed by the fresh market increased very slightly compared with the seasonal summer shipments of earlier recent years.

The problem is not a new one, with respect to a variety of phenomena
which are the subject of scientific inquiry. It is a problem which has
been the subject of inquiry for many years. The problem is not a new one,
but it is a problem which has been the subject of inquiry for many years.
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In this section we take a look at the problem of the origin of life.
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But the price experience with respect to fresh lemon shipments was rather disappointing. This does not necessarily indicate, however, a depressed consumer demand for lemons and lemon products. The market absorption of lemon-juice products must be added to the fresh shipments. With the two combined, fresh lemons and lemon-juice products in terms of fresh equivalent, the total market disappearance increased. This is in line with the discussion of consumption trends in fresh lemons and lemon-juice products in an earlier section.

It is reasonably clear that there is consumption competition between fresh lemons and lemon-juice products (frozen concentrated lemonade and canned single-strength lemon juice). Although the degree of consumption competition cannot at this stage of market development be measured precisely, there is reasonable evidence that such competition prevails to a significant extent in the hot weather periods. Furthermore, it may be that the degree of competition is likely stronger now than several years ago when frozen lemonade concentrate was in its "infancy." And if the degree of competition changes, it is more likely to increase than decrease unless recent and current market-price and consumer-preference relationships reverse their trends. Presently, however, no reason for such reversal is apparent.

In over-all terms and with the influence of the federal marketing order on fresh shipments, about 18,000 to 19,000 cars of fresh lemons are shipped annually. This annual rate has in recent years been remarkably stable due primarily to the operation of the federal marketing order for fresh shipments. These fresh shipments are used by consumers in a wide variety of uses in addition to juice and for homemade beverages. For juice and beverage uses, consumers have been buying some frozen concentrated lemonade and canned single-strength juice manufactured domestically from imported base stock. In terms of fresh equivalent, the rate of lemon products imports now amounts to about 2,000 cars annually. These importations must be added to the manufacture of

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lemon-juice products from domestic lemons to derive a juice figure which, when combined with fresh shipments, indicates the over-all disappearance of lemons in the country. The significance of lemon-juice products imports and their potential growth was considered earlier. They are referred to here again to indicate that imports of lemon-juice products affect the domestic fresh market, as well as the domestic products market, due to the consumption competition between the fresh and juice products markets.

When the total disappearance of lemons (fresh and processed in cans and bottles, domestic and import origin) is compared with population growth, it appears that total usage and population growth have been about in line with each other in recent years. What decline has occurred in fresh lemon consumption has just about been offset by the increase in juice products consumption. But it should be noted that the lemon industry as a whole does not appear to have reaped significant gains from the expansion in national income during the same recent years. If prices and returns had increased in the face of a stable per-capita over-all disappearance, there would have been evidence of an expansion in per-capita demand. But, as shown earlier, grower returns have not trended upward in recent years. Thus, although gross disappearance and population growth are keeping about in line with each other, neither the gross disappearance nor the returns to growers reflect a strong positive effect of the increasing national income.

The total disappearance of domestic lemons may be separated into several major categories. The historically important and still largest outlet by far is the fresh market. This year about 19,000 cars will be shipped to the states in this country and Canada and about 3,500 cars exported. For the 19,000 cars, we estimate an on-tree return of about \$3.15 or \$3.20 per packed box, and for the 3,500 cars exported, an on-tree return of about \$2.50 per packed box.

These estimated returns for fresh shipments may be compared with estimated returns for products this year. Lemons manufactured into juice products are likely to yield about 80 cents per packed equivalent box, on-tree basis; and lemons manufactured into citric acid may yield a negative return of about minus 50 cents per packed equivalent box, on-tree basis. On an f.o.b. packing house basis, these returns correspond to about \$50 per ton for juice lemons and \$15 per ton for lemons going into citric acid. These figures are not certain or precise, but they are suggestive and forcefully underline the significance of crop allocation among the alternative outlets.

In view of the comparative grower per-box returns from fresh and processed lemons noted above, the uninitiated might ask: "Then why not send all the lemons to fresh market?" The answer is well known to those familiar with the economic characteristics of fresh lemon shipments. Economic statistical studies as well as market experience clearly indicate that the market demand for fresh lemons is what is called "inelastic"; within the usual range of experience, increased seasonal fresh shipments will not only result in decreased prices per box but also result in decreased total returns. As a reflection of that type of relationship between market price and total returns, the entire crop for a long time has not been shipped fresh; as shown in the first section of the report, processed products have for a long time been used to absorb that part of the crop not shipped fresh.

In historical institutional terms, one of the major reasons for introducing the federal marketing order for fresh lemon shipments was to provide a vehicle for enforcing industrywide proportional compliance with the regulation of fresh shipments. And in the establishment and operation of the federal order, the grower-shipper interests supporting the order were well aware that lemons kept off the fresh market and channeled into products outlets would yield only small, if any, returns. Thus, the existence of a grower returns

differential in favor of the fresh market is not a recent development; rather, it is a reflection of the industry's intended and planned operations to obtain increased returns from the crop.

Hence, the situation in the past five or six years in certain respects is not different from the earlier years. But in terms of the structure of the products market, a significant change has occurred. With the growth in frozen concentrated lemonade and canned single-strength lemon juice, the products outlet is now made up of a larger proportion of high-value products. It is due to these higher valued products that grower returns from processed lemons attained the relatively favorable levels in some of the recent years. In other terms as the products took on some of the use characteristics of fresh lemons, there was a tendency for products returns to yield returns closer to those of fresh. But at the same time, there was generated a degree of consumption competition between the fresh lemon and juice products markets. Thus, there arose a different type of problem with respect to allocation of the crop among the fresh and products outlets. Previously, the two outlets were substantially independent in consumption demand; but now the two outlets have become significantly if not completely interdependent in consumption demand.

The consumption competition referred to above may be illustrated with reference to homemade lemonade from fresh lemons and home use of frozen concentrated lemonade. From the view of the household consumer and in terms of current retail prices, lemonade made from fresh lemons and lemonade made from frozen concentrate cost about the same on an equivalent quart of lemonade basis. Further, for many consumers the frozen concentrated lemonade provides use conveniences sought by contemporary home managers. The same applies to canned single-strength lemon juice, the household cost of which is currently extremely favorable in terms of cents per ounce of lemon juice compared with

...in the future, it is not a serious development; in fact, it is a reflection of the industry's continued and planned operations to obtain increased returns from the crop.

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juice home squeezed from fresh lemons. This situation is much different from what was generally characteristic of relations between the fresh lemon and processed markets in the prewar years.

As the federal marketing order for fresh lemon shipments was utilized to regulate the flow of fresh lemons from the California-Arizona producing areas to the receiving markets, the California state marketing order for lemon products was introduced with one of its major objectives to regulate the manufacture and flow of juice products into trade and consumption channels but which also directly affects prices and returns from processed lemons. In the majority of the years since 1950, although with important exceptions, the available supply of California lemons for processing was more than adequate to provide lemon-juice product packs which would be absorbed by the market without substantially depressing the market price for juice products. The products order was intended to "equalize the burden" of "surplus" lemons for products or to cushion price breaks in lemon-juice products. The order was framed with the implication that, since the dominant source of supply was from California lemons, the state marketing order could provide a mechanism for controlling the supply pressure of juice products. Significant leakages from supply sources outside of California apparently were not fully envisaged.

As discussed in a previous section, the importation of lemon stock for the domestic manufacture of juice products has tended to increase. This was associated with the increased demand for processing lemons in relation to their supply and price situation and particularly because of the limited period when a relatively "tight" situation prevailed in the available supply of California lemons for juice products manufacture. Some producers of lemon-juice products drew upon imports because of unavailable domestic stock or because what was physically available could be purchased only at prices above the import plus tariff price structure. Hence, a leakage was widened in the supply source for lemon stock usable in the manufacture of juice products.

Another leakage was also created by the increased value of processing lemons. Areas in this country that had not produced lemons previously became potential suppliers. One of the previous sections outlines the situation as it has been developing in the desert area of California-Arizona and in Florida. The lemons from the desert section of Arizona and from Florida, being thought of as primarily suited for products use, thus bring pressure on the lemon-juice supplies. Although the actually realized volumes from those areas so far have been small (percentagewise), the production potential of such areas is very substantial and likely could be realized with the encouragement of anticipated returns. Hence, such supplies for products in conjunction with imports create a sphere of supply pressure beyond the control regulation of the California state lemon products marketing order.

As the California lemon products order has been operating in most years, not only has a price floor been established for California lemons processed into juice products, but in addition, the order has indirectly afforded price protection to competing areas. In addition to benefiting from such price protection, areas as Italy, Florida, and Arizona enjoy lower lemon-producing cost structures than most growers in California. One may suspect that Italian producers of lemon-juice stock can profitably land their supplies into this country over the tariff even with the price effects of the California lemon products marketing order. And one may suspect that new producing areas in Florida once established on a going basis can profitably supply lemons for juice processing.

These developments not only bear upon the lemon-juice products market but also on the fresh lemon market. This is so because of the consumption competition between lemon-juice products and fresh lemons. Further, as juice supplies originating from areas outside California assume increasing volume, there develops a relatively restricted market outlet of value for California lemons to be processed into juice products.

The developments sketched above mean, in essence, that the economic marketing setting in which the California lemon industry now operates differs in some important respects from earlier years. Not only does there result effects on the potential earnings of California lemon growers, but also there are significant changes in the economic framework within which operate the federal marketing order for fresh lemon shipments and the state marketing order for lemon products.

The implications for the marketing orders were discussed in some detail in a previous section. In the over-all survey in this section, it may be noted that the current situation in conjunction with recent and potential developments emphasizes the importance of considering the fresh and processed markets and their respective marketing orders as closely interrelated dimensions of an essentially single economic market. Rather than thinking and operating in terms of obtaining as large as possible returns from the fresh market with the crop residual to be left for the products market and then operating it so as to obtain as large as possible returns from it independently, the industry faces the problem of developing an integrated system of operating the interdependent fresh and products market. Such a system should be oriented toward a dynamic economic setting in which the lemon industry finds itself. Actual and potential changes in production areas, changing patterns of consumer income, tastes and consumption behavior, and international trade impacts as well as technological developments are among the influences of which the industry must be aware. The short-run view should be tempered with the long-run prospects of the industry which of necessity operates in a competitive and changing economic environment.

Testing setting in which the California Power Industry now operates differs in some important respects from earlier years. Not only does there exist a change in the potential earnings of California Power Industry but also there are significant changes in the economic environment with a view to the future. It is necessary to order for future power ship into and to the marketing order.

The implications for the marketing order were discussed in some detail in a previous section. In the over-all view in this section, it may be noted that the current situation in California with respect to potential developments emphasizes the importance of understanding the basic and processed elements of their respective marketing orders as closely interrelated elements of an essentially stable economic system. Whether their thinking and operating in terms of obtaining as large as possible returns from the power market with the view to be left for the products market is a little different as so as to the same as large as possible returns from is important, the industry faces the problem of developing an integrated system of operating the interdependent power and products markets. Such a system should be organized to provide for the setting in which the power industry finds itself. It is not a simple matter in production as well as a variety of problems of consumer demand, to the extent that behavior, and internal factors are not in a technical development must be among the different elements of the industry that be noted. The short-run view should be kept in mind with the long-run perspective of the industry which is necessary to operate in a competitive and dynamic environment.

TABLE 1

World Lemon Production

Year	United States	Italy	World total
thousand packed boxes			
1919-20	4,532	10,588	15,854
1920-21	5,641	10,099	16,366
1921-22	4,377	12,067	17,251
1922-23	3,783	13,316	18,735
1923-24	6,432	12,150	20,198
1924-25	5,301	12,801	19,984
1925-26	7,317	13,080	22,482
1926-27	6,861	16,151	25,033
1927-28	5,419	13,015	20,643
1928-29	7,620	13,038	23,435
1929-30	6,109	15,079	23,914
1930-31	7,950	15,154	25,837
1931-32	7,696	11,283	21,732
1932-33	6,704	18,598	28,128
1933-34	7,295	13,024	23,203
1934-35	10,747	11,155	25,491
1935-36	7,878	10,253	22,236
1936-37	7,579	8,247	20,676
1937-38	9,304	8,662	23,289
1938-39	11,106	11,330	27,917
1939-40	11,983	9,694	27,193
1940-41	17,236	9,897	32,942
1941-42	11,720	9,860	27,224
1942-43	14,880	9,204	30,714
1943-44	11,050	7,455	24,363
1944-45	12,633	6,800	24,200
1945-46	14,500	6,400	25,700
1946-47	13,800	7,100	26,500
1947-48	12,900	8,100	28,000
1948-49	9,900	7,400	24,500
1949-50	11,500	8,900	25,800
1950-51	13,450	8,931	29,792
1951-52	12,800	8,658	29,720
1952-53	12,590	8,399	29,408
1953-54	16,130	8,911	33,379
1954-55	14,000	8,018	29,882
1955-56	13,200	8,122	a/

a/ Data not available.

Sources: Sunkist Growers, Statistical Information on the Citrus Fruit Industry, and U. S. Department of Agriculture, Foreign Crops and Markets (Washington: Govt. Print. Off., July, 1954, and January, 1956).

UNITED STATES PRODUCTION OF FRUIT AND NUTS

Year	Apples	Pears	Oranges	Grapes	Other Fruits	Nuts
1925-26	13,200	16,130	14,000	13,200	8,122	8,122
1926-27	13,200	16,130	14,000	13,200	8,122	8,122
1927-28	13,200	16,130	14,000	13,200	8,122	8,122
1928-29	13,200	16,130	14,000	13,200	8,122	8,122
1929-30	13,200	16,130	14,000	13,200	8,122	8,122
1930-31	13,200	16,130	14,000	13,200	8,122	8,122
1931-32	13,200	16,130	14,000	13,200	8,122	8,122
1932-33	13,200	16,130	14,000	13,200	8,122	8,122
1933-34	13,200	16,130	14,000	13,200	8,122	8,122
1934-35	13,200	16,130	14,000	13,200	8,122	8,122
1935-36	13,200	16,130	14,000	13,200	8,122	8,122
1936-37	13,200	16,130	14,000	13,200	8,122	8,122
1937-38	13,200	16,130	14,000	13,200	8,122	8,122
1938-39	13,200	16,130	14,000	13,200	8,122	8,122
1939-40	13,200	16,130	14,000	13,200	8,122	8,122
1940-41	13,200	16,130	14,000	13,200	8,122	8,122
1941-42	13,200	16,130	14,000	13,200	8,122	8,122
1942-43	13,200	16,130	14,000	13,200	8,122	8,122
1943-44	13,200	16,130	14,000	13,200	8,122	8,122
1944-45	13,200	16,130	14,000	13,200	8,122	8,122
1945-46	13,200	16,130	14,000	13,200	8,122	8,122
1946-47	13,200	16,130	14,000	13,200	8,122	8,122
1947-48	13,200	16,130	14,000	13,200	8,122	8,122
1948-49	13,200	16,130	14,000	13,200	8,122	8,122
1949-50	13,200	16,130	14,000	13,200	8,122	8,122
1950-51	13,200	16,130	14,000	13,200	8,122	8,122
1951-52	13,200	16,130	14,000	13,200	8,122	8,122
1952-53	13,200	16,130	14,000	13,200	8,122	8,122
1953-54	13,200	16,130	14,000	13,200	8,122	8,122
1954-55	13,200	16,130	14,000	13,200	8,122	8,122
1955-56	13,200	16,130	14,000	13,200	8,122	8,122

Sources: Shippers' Growers, Statistical Information on the Dates
Fruit Industry, and U. S. Department of Agriculture, Foreign
Fruit and Nut Statistics, Washington, D. C., 1957, p. 1.

TABLE 2

Production of Lemons, Selected Foreign Countries

Crop year	Spain	Greece	Argentina	Chile	Lebanon	Israel	Turkey	Algeria	Union of South Africa
	thousand boxes								
<u>Five-year average:</u>									
1935-36 to 1939-40	1,445	446	371	250	464 ^{a/}	88 ^{b/}	74	102	142
1945-46 to 1949-50	1,108	633	1,340	610	476	288	260	131	180
<u>Annual:</u>									
1946-47	1,083	477	1,134	658	435	353	232	102	188
1947-48	1,339	635	1,350	1,146	580	500	314	92	182
1948-49	812	815	1,400	1,167	348	105	359	159	191
1949-50	870	911	1,770	1,146	290	130	244	186	208
1950-51	1,481	864	1,690	928	435	172	193	244	212
1951-52	1,642	899	1,690	928	522	254	421	291	176
1952-53	1,874	1,085	1,535	812	435	220	667	247	218
1953-54	2,205	1,209	1,453	435	450	295	470	290	249
1954-55	1,015	1,179	1,500	725	435	373	755	290	261
1955-56	1,305	1,114	c/	c/	450	350	865	320	c/

^{a/} Includes Syria.

^{b/} Production in Palestine.

^{c/} Data not available.

Sources: U. S. Agricultural Marketing Service from the records of Foreign Agricultural Service, and U. S. Department of Agriculture, Foreign Crops and Markets (Washington: Govt. Print. Off., 1956).

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TABLE 3

California Lemon Production by Major Producing Counties

Year	Los Angeles	Orange	Riverside	San Bernardino	San Diego	Santa Barbara	Ventura
thousand packed boxes							
1929-30	1,464	722	322	767	932	292	970
1930-31	2,006	861	502	1,010	922	382	1,283
1931-32	1,748	574	465	724	738	358	1,347
1932-33	1,445	867	348	780	739	293	976
1933-34	1,985	726	563	837	599	422	1,183
1934-35	2,063	897	468	944	551	835	1,745
1935-36	2,021	905	564	821	827	599	1,604
1936-37	1,538	566	379	597	424	710	2,104
1937-38	1,754	929	354	533	686	1,013	2,432
1938-39	2,620	839	610	787	837	1,076	2,298
1939-40	2,667	1,230	584	876	1,117	1,386	2,550
1940-41	3,245	1,836	900	1,766	971	1,882	4,822
1941-42	2,354	1,251	466	1,272	1,338	1,434	3,308
1942-43	3,115	1,381	728	1,286	1,341	2,079	4,789
1943-44	2,365	1,034	601	1,198	1,110	1,238	2,898
1944-45	2,795	1,382	802	1,139	1,265	1,491	3,338
1945-46	2,920	1,141	724	1,247	1,191	2,003	4,863
1946-47	2,524	1,202	700	1,094	1,134	1,953	4,805
1947-48	2,084	1,127	641	903	1,049	1,994	4,882
1948-49	1,842	832	752	701	763	1,373	3,945
1949-50	2,068	759	470	730	622	1,599	4,157
1950-51	2,319	1,073	847	1,082	1,090	1,904	4,595
1951-52	2,150	818	736	1,032	988	1,842	4,880
1952-53	2,260	788	767	1,169	822	1,686	4,363

Source: Calculated from data issued by Los Angeles Chamber of Commerce, Southern California Crops and Markets. (Annual statistical supplements.)

TABLE 3

California Lemon Production by Major Producing Counties

Year	San Joaquin	San Bernardino	Riverside	San Diego	San Luis Obispo	San Jose
1900	1,000	1,000	1,000	1,000	1,000	1,000
1901	1,000	1,000	1,000	1,000	1,000	1,000
1902	1,000	1,000	1,000	1,000	1,000	1,000
1903	1,000	1,000	1,000	1,000	1,000	1,000
1904	1,000	1,000	1,000	1,000	1,000	1,000
1905	1,000	1,000	1,000	1,000	1,000	1,000
1906	1,000	1,000	1,000	1,000	1,000	1,000
1907	1,000	1,000	1,000	1,000	1,000	1,000
1908	1,000	1,000	1,000	1,000	1,000	1,000
1909	1,000	1,000	1,000	1,000	1,000	1,000
1910	1,000	1,000	1,000	1,000	1,000	1,000
1911	1,000	1,000	1,000	1,000	1,000	1,000
1912	1,000	1,000	1,000	1,000	1,000	1,000
1913	1,000	1,000	1,000	1,000	1,000	1,000
1914	1,000	1,000	1,000	1,000	1,000	1,000
1915	1,000	1,000	1,000	1,000	1,000	1,000
1916	1,000	1,000	1,000	1,000	1,000	1,000
1917	1,000	1,000	1,000	1,000	1,000	1,000
1918	1,000	1,000	1,000	1,000	1,000	1,000
1919	1,000	1,000	1,000	1,000	1,000	1,000
1920	1,000	1,000	1,000	1,000	1,000	1,000
1921	1,000	1,000	1,000	1,000	1,000	1,000
1922	1,000	1,000	1,000	1,000	1,000	1,000
1923	1,000	1,000	1,000	1,000	1,000	1,000
1924	1,000	1,000	1,000	1,000	1,000	1,000
1925	1,000	1,000	1,000	1,000	1,000	1,000
1926	1,000	1,000	1,000	1,000	1,000	1,000
1927	1,000	1,000	1,000	1,000	1,000	1,000
1928	1,000	1,000	1,000	1,000	1,000	1,000
1929	1,000	1,000	1,000	1,000	1,000	1,000
1930	1,000	1,000	1,000	1,000	1,000	1,000
1931	1,000	1,000	1,000	1,000	1,000	1,000
1932	1,000	1,000	1,000	1,000	1,000	1,000
1933	1,000	1,000	1,000	1,000	1,000	1,000
1934	1,000	1,000	1,000	1,000	1,000	1,000
1935	1,000	1,000	1,000	1,000	1,000	1,000
1936	1,000	1,000	1,000	1,000	1,000	1,000
1937	1,000	1,000	1,000	1,000	1,000	1,000
1938	1,000	1,000	1,000	1,000	1,000	1,000
1939	1,000	1,000	1,000	1,000	1,000	1,000
1940	1,000	1,000	1,000	1,000	1,000	1,000
1941	1,000	1,000	1,000	1,000	1,000	1,000
1942	1,000	1,000	1,000	1,000	1,000	1,000
1943	1,000	1,000	1,000	1,000	1,000	1,000
1944	1,000	1,000	1,000	1,000	1,000	1,000
1945	1,000	1,000	1,000	1,000	1,000	1,000
1946	1,000	1,000	1,000	1,000	1,000	1,000
1947	1,000	1,000	1,000	1,000	1,000	1,000
1948	1,000	1,000	1,000	1,000	1,000	1,000
1949	1,000	1,000	1,000	1,000	1,000	1,000
1950	1,000	1,000	1,000	1,000	1,000	1,000

Source: California Lemon Production by Major Producing Counties, (Annual Statistical Supplement).

TABLE 4

California Lemon Nonbearing Acreage, Selected Counties

Year	Tulare	Los Angeles	Orange	Riverside	San Bernardino	San Diego	Santa Barbara	Ventura	Other	Total	
	1	2	3	4	5	6	7	8	9	10	11
	acres										
1937	166	2,104	949	266	1,264	2,079	2,945	5,054	165	14,992	
1938	181	1,812	675	249	1,351	1,859	2,629	4,576	155	13,487	
1939	179	1,462	458	246	1,137	1,884	2,933	5,289	89	13,677	
1940	205	1,303	352	186	960	1,996	2,957	5,859	91	13,909	
1941	180	1,150	343	143	766	1,793	2,760	6,175	132	13,442	
1942	178	802	312	200	541	1,563	2,387	5,670	108	11,761	
1943	187	600	272	197	236	1,143	2,084	4,890	107	9,716	
1944	133	542	189	148	135	651	1,515	3,507	112	6,932	
1945	143	410	104	153	83	322	1,202	2,415	103	4,935	
1946	101	338	111	186	81	200	1,095	1,832	53	3,997	
1947	112	302	225	151	118	197	1,206	2,330	46	4,687	
1948	124	380	331	226	148	262	1,413	3,117	34	6,035	
1949a/	126	297	333	248	173	324	1,516	4,016	4	7,037	
1950	134	281	329	248	240	300	1,763	5,283	4	8,582	5,683
1951	123	230	325	294	271	517	1,709	5,620	3	9,092	5,756
1952	139	229	207	280	262	468	1,630	5,510	3	8,728	5,372
1953	116	110	105	327	287	435	1,611	5,817	3	8,811	6,679
1954	133	84	146	298	346	475	1,573	5,659	9	8,723	6,932

(Continued on next page.)

Table 4 continued.

a/ Acreage estimates from 1949-1953 may not be wholly comparable with those of earlier years because of the results of revised surveys completed since 1948 in the various important producing counties.

Sources:

Cols. 1-10: 1937-1953--California Crop and Livestock Reporting Service, Acreage Estimates, California Fruit and Nut Crops, 1919-1953 (Sacramento: State Print. Off., April, 1956), 225p. (California Department of Agriculture Special Publication 257--supplement.)

1954--California Crop and Livestock Reporting Service, Acreage Estimates, California Fruit and Nut Crops, 1954 (Sacramento: State Print. Off., June, 1955).

Col. 11: As reported by Lemon Administrative Committee.

Q: It is reported by the Agricultural Committee.

The Committee on Agriculture, in its report, states that the
Department of Agriculture has been advised by the
Department of the Interior that the
Department of the Interior has been advised by the
Department of the Interior that the

Source:

Results of review always completed since 1918 to the various important business concerns.

Source of information.

TABLE 5

California Lemon Bearing Acreage, Selected Counties

Year	Tulare	Los Angeles	Orange	Riverside	San Bernardino	San Diego	Santa Barbara	Ventura	Other	Total	
	1	2	3	4	5	6	7	8	9	10	11
	acres										
1937	1,111	10,184	6,792	3,523	5,105	5,235	3,547	10,459	966	46,922	
1938	1,151	10,715	7,135	3,530	5,256	5,760	4,435	11,041	975	49,998	
1939	1,163	11,211	7,412	3,499	5,528	6,500	4,620	11,064	723	51,720	
1940	1,132	11,470	7,470	3,569	5,695	6,795	5,050	10,946	712	52,839	
1941	1,164	11,631	7,295	3,643	5,895	6,930	5,630	11,498	684	54,370	
1942	1,186	11,930	7,262	3,634	5,984	7,020	6,130	12,434	677	56,257	
1943	1,196	12,086	7,294	3,642	6,165	7,290	6,720	13,298	527	58,218	
1944	1,262	12,200	7,352	3,659	6,216	7,165	7,460	14,974	522	60,810	
1945	1,246	12,209	7,442	3,675	6,203	7,460	7,905	16,269	535	62,944	
1946	1,229	12,228	7,421	3,604	6,143	7,330	7,095	17,330	584	62,964	
1947	1,236	11,969	7,030	3,579	6,079	6,920	7,000	17,582	510	61,905	
1948	1,242	11,464	6,539	3,466	5,898	6,310	7,080	17,515	507	60,021	
1949a/	1,239	10,718	5,156	3,243	5,748	5,475	7,230	17,324	510	56,643	
1950	1,061	10,440	4,938	3,234	5,679	5,410	7,240	16,876	475	55,353	58,239
1951	1,165	10,092	4,798	3,190	5,535	5,070	7,478	17,174	331	54,833	59,138
1952	924	9,864	4,832	3,106	5,512	4,800	7,600	17,598	329	54,565	58,453
1953	941	9,466	4,666	3,072	5,448	4,399	7,909	18,150	325	54,376	57,160
1954	974	8,771	4,615	3,099	5,304	4,449	7,080	18,314	325	52,931	56,575

(Continued on next page.)

(continued on next page)

Table 5 continued.

a/ Acreage estimates from 1949-1954 may not be wholly comparable with those of earlier years because of the results of revised surveys completed since 1948 in the various important producing counties.

Sources:

Cols. 1-10: 1937-1953--California Crop and Livestock Reporting Service, Acreage Estimates, California Fruit and Nut Crops, 1919-1953 (Sacramento: State Print. Off., April, 1956), 225p. (California Department of Agriculture Special Publication 257--supplement.)

1954--California Crop and Livestock Reporting Service, Acreage Estimates, California Fruit and Nut Crops, 1954 (Sacramento: State Print. Off., June, 1955). (Annual issues.)

Col. 11: As reported by Lemon Administrative Committee.

III. 1. The following is a list of the names of the persons who have been named in the report:

1. The following is a list of the names of the persons who have been named in the report:

2. The following is a list of the names of the persons who have been named in the report:

3. The following is a list of the names of the persons who have been named in the report:

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5. The following is a list of the names of the persons who have been named in the report:

6. The following is a list of the names of the persons who have been named in the report:

TABLE 6

California Lemon Acreage Planted During Indicated Years and Standing in 1954

Period or year planted	Acreage planted	Age of trees in years	Per cent dis- tribution of acreage by age
1929 or earlier	18,756	26 or more	30.42
1930-1934	9,814	21-25	15.92
1935-1939	11,183	16-20	18.14
1940	2,412	14-15	3.91
1941	1,750	13-14	2.84
1942	926	12-13	1.50
1943	649	11-12	1.05
1944	743	10-11	1.20
1945	577	9-10	0.94
1946	888	8- 9	1.44
1947	1,572	7- 8	2.55
1948	1,978	6- 7	3.21
1949	1,702	5- 6	2.76
1950	2,281	4- 5	3.70
1951	1,366	3- 4	2.22
1952	1,265	2- 3	2.05
1953	2,146	1- 2	3.48
1954	1,646	1 year or less	2.67
Total standing in 1954	61,654		100.00
			Per cent of total acreage
Total bearing acreage in 1954	52,931		85.9
Total nonbearing acreage in 1954	<u>8,723</u> 61,654		<u>14.1</u> 100.00

Source: Based on data in California Crop and Livestock Reporting Service,
Acreage Estimates, California Fruit and Nut Crops, 1954 (Sacramento:
State Print. Off., June, 1955). (Annual issues.)

Wetlands Loss: Average Planted Native Wetland Trees and Standing in 1954

Year of Planting	Average Planted	Age of trees in years	Per cent of total of average
1954 or earlier	18,750	25 or more	32.42
1950-1954	2,414	21-25	4.32
1945-1950	11,151	16-20	19.14
1940-1945	2,412	11-15	4.31
1935-1940	1,750	6-10	3.04
1930-1935	2,080	1-5	3.70
1925-1930	2,080	1-5	3.70
1920-1925	2,080	1-5	3.70
1915-1920	2,080	1-5	3.70
1910-1915	2,080	1-5	3.70
1905-1910	2,080	1-5	3.70
1900-1905	2,080	1-5	3.70
1895-1900	2,080	1-5	3.70
1890-1895	2,080	1-5	3.70
1885-1890	2,080	1-5	3.70
1880-1885	2,080	1-5	3.70
1875-1880	2,080	1-5	3.70
1870-1875	2,080	1-5	3.70
1865-1870	2,080	1-5	3.70
1860-1865	2,080	1-5	3.70
1855-1860	2,080	1-5	3.70
1850-1855	2,080	1-5	3.70
1845-1850	2,080	1-5	3.70
1840-1845	2,080	1-5	3.70
1835-1840	2,080	1-5	3.70
1830-1835	2,080	1-5	3.70
1825-1830	2,080	1-5	3.70
1820-1825	2,080	1-5	3.70
1815-1820	2,080	1-5	3.70
1810-1815	2,080	1-5	3.70
1805-1810	2,080	1-5	3.70
1800-1805	2,080	1-5	3.70
1795-1800	2,080	1-5	3.70
1790-1795	2,080	1-5	3.70
1785-1790	2,080	1-5	3.70
1780-1785	2,080	1-5	3.70
1775-1780	2,080	1-5	3.70
1770-1775	2,080	1-5	3.70
1765-1770	2,080	1-5	3.70
1760-1765	2,080	1-5	3.70
1755-1760	2,080	1-5	3.70
1750-1755	2,080	1-5	3.70
1745-1750	2,080	1-5	3.70
1740-1745	2,080	1-5	3.70
1735-1740	2,080	1-5	3.70
1730-1735	2,080	1-5	3.70
1725-1730	2,080	1-5	3.70
1720-1725	2,080	1-5	3.70
1715-1720	2,080	1-5	3.70
1710-1715	2,080	1-5	3.70
1705-1710	2,080	1-5	3.70
1700-1705	2,080	1-5	3.70
1695-1700	2,080	1-5	3.70
1690-1695	2,080	1-5	3.70
1685-1690	2,080	1-5	3.70
1680-1685	2,080	1-5	3.70
1675-1680	2,080	1-5	3.70
1670-1675	2,080	1-5	3.70
1665-1670	2,080	1-5	3.70
1660-1665	2,080	1-5	3.70
1655-1660	2,080	1-5	3.70
1650-1655	2,080	1-5	3.70
1645-1650	2,080	1-5	3.70
1640-1645	2,080	1-5	3.70
1635-1640	2,080	1-5	3.70
1630-1635	2,080	1-5	3.70
1625-1630	2,080	1-5	3.70
1620-1625	2,080	1-5	3.70
1615-1620	2,080	1-5	3.70
1610-1615	2,080	1-5	3.70
1605-1610	2,080	1-5	3.70
1600-1605	2,080	1-5	3.70
1595-1600	2,080	1-5	3.70
1590-1595	2,080	1-5	3.70
1585-1590	2,080	1-5	3.70
1580-1585	2,080	1-5	3.70
1575-1580	2,080	1-5	3.70
1570-1575	2,080	1-5	3.70
1565-1570	2,080	1-5	3.70
1560-1565	2,080	1-5	3.70
1555-1560	2,080	1-5	3.70
1550-1555	2,080	1-5	3.70
1545-1550	2,080	1-5	3.70
1540-1545	2,080	1-5	3.70
1535-1540	2,080	1-5	3.70
1530-1535	2,080	1-5	3.70
1525-1530	2,080	1-5	3.70
1520-1525	2,080	1-5	3.70
1515-1520	2,080	1-5	3.70
1510-1515	2,080	1-5	3.70
1505-1510	2,080	1-5	3.70
1500-1505	2,080	1-5	3.70
1495-1500	2,080	1-5	3.70
1490-1495	2,080	1-5	3.70
1485-1490	2,080	1-5	3.70
1480-1485	2,080	1-5	3.70
1475-1480	2,080	1-5	3.70
1470-1475	2,080	1-5	3.70
1465-1470	2,080	1-5	3.70
1460-1465	2,080	1-5	3.70
1455-1460	2,080	1-5	3.70
1450-1455	2,080	1-5	3.70
1445-1450	2,080	1-5	3.70
1440-1445	2,080	1-5	3.70
1435-1440	2,080	1-5	3.70
1430-1435	2,080	1-5	3.70
1425-1430	2,080	1-5	3.70
1420-1425	2,080	1-5	3.70
1415-1420	2,080	1-5	3.70
1410-1415	2,080	1-5	3.70
1405-1410	2,080	1-5	3.70
1400-1405	2,080	1-5	3.70
1395-1400	2,080	1-5	3.70
1390-1395	2,080	1-5	3.70
1385-1390	2,080	1-5	3.70
1380-1385	2,080	1-5	3.70
1375-1380	2,080	1-5	3.70
1370-1375	2,080	1-5	3.70
1365-1370	2,080	1-5	3.70
1360-1365	2,080	1-5	3.70
1355-1360	2,080	1-5	3.70
1350-1355	2,080	1-5	3.70
1345-1350	2,080	1-5	3.70
1340-1345	2,080	1-5	3.70
1335-1340	2,080	1-5	3.70
1330-1335	2,080	1-5	3.70
1325-1330	2,080	1-5	3.70
1320-1325	2,080	1-5	3.70
1315-1320	2,080	1-5	3.70
1310-1315	2,080	1-5	3.70
1305-1310	2,080	1-5	3.70
1300-1305	2,080	1-5	3.70
1295-1300	2,080	1-5	3.70
1290-1295	2,080	1-5	3.70
1285-1290	2,080	1-5	3.70
1280-1285	2,080	1-5	3.70
1275-1280	2,080	1-5	3.70
1270-1275	2,080	1-5	3.70
1265-1270	2,080	1-5	3.70
1260-1265	2,080	1-5	3.70
1255-1260	2,080	1-5	3.70
1250-1255	2,080	1-5	3.70
1245-1250	2,080	1-5	3.70
1240-1245	2,080	1-5	3.70
1235-1240	2,080	1-5	3.70
1230-1235	2,080	1-5	3.70
1225-1230	2,080	1-5	3.70
1220-1225	2,080	1-5	3.70
1215-1220	2,080	1-5	3.70
1210-1215	2,080	1-5	3.70
1205-1210	2,080	1-5	3.70
1200-1205	2,080	1-5	3.70
1195-1200	2,080	1-5	3.70
1190-1195	2,080	1-5	3.70
1185-1190	2,080	1-5	3.70
1180-1185	2,080	1-5	3.70
1175-1180	2,080	1-5	3.70
1170-1175	2,080	1-5	3.70
1165-1170	2,080	1-5	3.70
1160-1165	2,080	1-5	3.70
1155-1160	2,080	1-5	3.70
1150-1155	2,080	1-5	3.70
1145-1150	2,080	1-5	3.70
1140-1145	2,080	1-5	3.70
1135-1140	2,080	1-5	3.70
1130-1135	2,080	1-5	3.70
1125-1130	2,080	1-5	3.70
1120-1125	2,080	1-5	3.70
1115-1120	2,080	1-5	3.70
1110-1115	2,080	1-5	3.70
1105-1110	2,080	1-5	3.70
1100-1105	2,080	1-5	3.70
1095-1100	2,080	1-5	3.70
1090-1095	2,080	1-5	3.70
1085-1090	2,080	1-5	3.70
1080-1085	2,080	1-5	3.70
1075-1080	2,080	1-5	3.70
1070-1075	2,080	1-5	3.70
1065-1070	2,080	1-5	3.70
1060-1065	2,080	1-5	3.70
1055-1060	2,080	1-5	3.70
1050-1055	2,080	1-5	3.70
1045-1050	2,080	1-5	3.70
1040-1045	2,080	1-5	3.70
1035-1040	2,080	1-5	3.70
1030-1035	2,080	1-5	3.70
1025-1030	2,080	1-5	3.70
1020-1025	2,080	1-5	3.70
1015-1020	2,080	1-5	3.70
1010-1015	2,080	1-5	3.70
1005-1010	2,080	1-5	3.70
1000-1005	2,080	1-5	3.70
995-1000	2,080	1-5	3.70
990-995	2,080	1-5	3.70
985-990	2,080	1-5	3.70
980-985	2,080	1-5	3.70
975-980	2,080	1-5	3.70
970-975	2,080	1-5	3.70
965-970	2,080	1-5	3.70
960-965	2,080	1-5	3.70
955-960	2,080	1-5	3.70
950-955	2,080	1-5	3.70
945-950	2,080	1-5	3.70
940-945	2,080	1-5	3.70
935-940	2,080	1-5	3.70
930-935	2,080	1-5	3.70
925-930	2,080	1-5	3.70
920-925	2,080	1-5	3.70
915-920	2,080	1-5	3.70
910-915	2,080	1-5	3.70
905-910	2,080	1-5	3.70
900-905	2,080	1-5	3.70
895-900	2,080	1-5	3.70
890-895	2,080	1-5	3.70
885-890	2,080	1-5	3.70
880-885	2,080	1-5	3.70
875-880	2,080	1-5	3.70
870-875	2,080	1-5	3.70
865-870	2,080	1-5	3.70
860-865	2,080	1-5	3.70
855-860	2,080	1-5	3.70
850-855	2,080	1-5	3.70
845-850	2,080	1-5	3.70
840-845	2,080	1-5	3.70
835-840	2,080	1-5	3.70
830-835	2,080	1-5	3.70
825-830	2,080	1-5	3.70
820-825	2,080	1-5	3.70
815-820	2,080	1-5	3.70
810-815	2,080	1-5	3.70
805-810	2,080	1-5	3.70
800-805	2,080	1-5	3.70
795-800	2,080	1-5	3.70
790-795	2,080	1-5	3.70
785-790	2,080	1-5	3.70
780-785	2,080	1-5	3.70
775-780	2,080	1-5	3.70
770-775	2,080	1-5	3.70
765-770	2,080	1-5	3.70
760-765	2,080	1-5	3.70
755-760	2,080	1-5	3.70
750-755	2,080	1-5	3.70
745-750	2,080	1-5	3.70
740-745	2,080	1-5	3.70
735-740	2,080	1-5	3.70
730-735	2,080	1-5	3.70
725-730	2,080	1-5	3.70
720-725	2,080	1-5	3.70
715-720	2,080	1-5	3.70
710-715	2,080	1-5	3.70
705-710	2,080	1-5	3.70
700-705	2,080	1-5	3.70
695-700	2,080	1-5	3.70
690-695	2,080	1-5	3.70
685-690	2,080	1-5	3.70
680-685	2,080	1-5	3.70
675-680	2,080	1-5	3.70
670-675	2,080	1-5	3.70
665-670	2,080	1-5	3.70
660-665	2,080	1-5	3.70
655-660	2,080	1-5	3.70
650-655	2,080	1-5	3.70
645-650	2,080	1-5	3.70
640-645			

TABLE 7

Lemon and Lime Trees Moved from Florida Nurseries
to Florida Destinations

Year (July-June)	Limes	Lemons
	number of trees	
1928-29	8,348	2,020
1929-30	8,547	1,907
1930-31	11,187	3,031
1931-32	25,687	3,771
1932-33	47,785	4,313
1933-34	40,616	22,438
1934-35	33,666	11,486
1935-36	61,207	29,472
1936-37	123,054	19,381
1937-38	80,034	13,407
1938-39	47,432	8,600
1939-40	26,899	6,435
1940-41	26,550	2,961
1941-42	14,412	2,751
1942-43	14,406	2,229
1943-44	11,931	3,287
1944-45	15,190	2,109
1945-46	20,874	1,970
1946-47	34,755	6,328
1947-48	26,392	4,224
1948-49	33,635	5,923
1949-50	21,180	6,875
1950-51	17,206	7,351
1951-52	25,696	6,040
1952-53	35,256	6,908
1953-54	87,232	31,621
1954-55	71,559	63,333

Source: Savage, Zach, Movement of Citrus Trees from Florida Nurseries (Gainesville: University of Florida, College of Agriculture, Agricultural Experiment Station, 1955), 34p. (Agricultural Economics Mimeographed Report 56-4.)

Table 1. Total value of agricultural products shipped from Florida, 1921-1931

Year	Value	Value
1921-22	17,253	17,253
1922-23	17,253	17,253
1923-24	17,253	17,253
1924-25	17,253	17,253
1925-26	17,253	17,253
1926-27	17,253	17,253
1927-28	17,253	17,253
1928-29	17,253	17,253
1929-30	17,253	17,253
1930-31	17,253	17,253
1931-32	17,253	17,253
1932-33	17,253	17,253
1933-34	17,253	17,253
1934-35	17,253	17,253
1935-36	17,253	17,253
1936-37	17,253	17,253
1937-38	17,253	17,253
1938-39	17,253	17,253
1939-40	17,253	17,253
1940-41	17,253	17,253
1941-42	17,253	17,253
1942-43	17,253	17,253
1943-44	17,253	17,253
1944-45	17,253	17,253
1945-46	17,253	17,253
1946-47	17,253	17,253
1947-48	17,253	17,253
1948-49	17,253	17,253
1949-50	17,253	17,253
1950-51	17,253	17,253
1951-52	17,253	17,253
1952-53	17,253	17,253
1953-54	17,253	17,253
1954-55	17,253	17,253
1955-56	17,253	17,253
1956-57	17,253	17,253
1957-58	17,253	17,253
1958-59	17,253	17,253
1959-60	17,253	17,253
1960-61	17,253	17,253
1961-62	17,253	17,253
1962-63	17,253	17,253
1963-64	17,253	17,253
1964-65	17,253	17,253
1965-66	17,253	17,253
1966-67	17,253	17,253
1967-68	17,253	17,253
1968-69	17,253	17,253
1969-70	17,253	17,253
1970-71	17,253	17,253
1971-72	17,253	17,253
1972-73	17,253	17,253
1973-74	17,253	17,253
1974-75	17,253	17,253
1975-76	17,253	17,253
1976-77	17,253	17,253
1977-78	17,253	17,253
1978-79	17,253	17,253
1979-80	17,253	17,253
1980-81	17,253	17,253
1981-82	17,253	17,253
1982-83	17,253	17,253
1983-84	17,253	17,253
1984-85	17,253	17,253
1985-86	17,253	17,253
1986-87	17,253	17,253
1987-88	17,253	17,253
1988-89	17,253	17,253
1989-90	17,253	17,253
1990-91	17,253	17,253
1991-92	17,253	17,253
1992-93	17,253	17,253
1993-94	17,253	17,253
1994-95	17,253	17,253
1995-96	17,253	17,253
1996-97	17,253	17,253
1997-98	17,253	17,253
1998-99	17,253	17,253
1999-00	17,253	17,253
2000-01	17,253	17,253
2001-02	17,253	17,253
2002-03	17,253	17,253
2003-04	17,253	17,253
2004-05	17,253	17,253
2005-06	17,253	17,253
2006-07	17,253	17,253
2007-08	17,253	17,253
2008-09	17,253	17,253
2009-10	17,253	17,253
2010-11	17,253	17,253
2011-12	17,253	17,253
2012-13	17,253	17,253
2013-14	17,253	17,253
2014-15	17,253	17,253
2015-16	17,253	17,253
2016-17	17,253	17,253
2017-18	17,253	17,253
2018-19	17,253	17,253
2019-20	17,253	17,253
2020-21	17,253	17,253
2021-22	17,253	17,253

Source: U.S. Department of Agriculture, Bureau of Economic Analysis, "Agricultural Products Shipped from Florida, 1921-1931," *Annals of the Entomological Society of America*, vol. 24, no. 1, 1931, pp. 1-10.

TABLE 8

Lemon Trees Moved from Florida Nurseries to Florida Destinations

Year (July-June)	Variety						Total
	Villa Franca	Perrine	Meyers	Sperricola	Ponderosa	Other lemons	
	number of trees						
1928-29	489		124		155	1,252	2,020
1929-30	353		131		157	1,266	1,907
1930-31	421		785		164	1,661	3,031
1931-32	1,028	36	846		182	1,679	3,771
1932-33	645	853	1,062	223	138	1,392	4,313
1933-34	361	16,804	1,961	1	322	2,989	22,438
1934-35	192	6,800	1,934	716	74	1,770	11,486
1935-36	255	24,134	2,207	294	236	2,346	29,472
1936-37	258	13,777	1,360	9	155	3,822	19,381
1937-38	239	6,291	1,355	856	310	4,356	13,407
1938-39	215	1,585	2,049	201	241	4,309	8,600
1939-40	139	624	3,417	101	304	1,850	6,435
1940-41	148	259	939	--	254	1,351	2,961
1941-42	139	138	812	258	366	1,038	2,751
1942-43	144	130	1,066	6	329	554	2,229
1943-44	296	198	1,178	10	379	1,226	3,287
1944-45	112	244	720	11	233	789	2,109
1945-46	65	9	771	39	450	636	1,970
1946-47	86	3	1,747	15	387	4,090	6,328
1947-48	70	5	1,981	1	351	1,816	4,224
1948-49	50	--	3,061	--	981	1,831	5,923
1949-50	52	--	3,200	8	925	2,690	6,875
1950-51	84	16	3,567	11	1,346	2,327	7,351
1951-52	31	2	2,826	2	1,077	2,102	6,040
1952-53	100	--	3,664	--	1,458	1,686	6,908
1953-54	31	5	7,858	--	1,150	22,577	31,621
1954-55	2,709	10	11,136	--	947	48,531	63,333

(Continued on next page.)

TABLE 11

California Acreage, Yield, and Production of Lemons

Year	Total acreage		Bearing acreage		Yields		Production	
	Acre	Index	Acre	Index	Yield per bearing acre	Index	Pro- duction	Index
	1	2	3	4	5	6	7	8
	thou- sands	1935-1939= 100	thou- sands	1935-1939= 100	packed boxes	1935-1939= 100	thousand packed boxes	1935-1939= 100
1919-20	46.0	74.3	35.6	76.0	127	62.8	4,532	47.4
1920-21	46.7	75.5	38.3	81.7	147	72.7	5,641	59.1
1921-22	46.9	75.8	40.5	86.4	108	53.4	4,377	45.8
1922-23	46.5	75.1	41.0	87.5	92	45.5	3,783	39.6
1923-24	46.2	74.7	41.2	87.9	156	77.2	6,432	67.3
1924-25	45.8	74.0	41.3	88.1	128	63.3	5,301	55.5
1925-26	45.2	73.0	41.6	88.8	176	87.0	7,317	76.6
1926-27	44.7	72.2	41.6	88.8	165	81.6	6,861	71.8
1927-28	44.5	71.9	41.0	87.5	132	65.3	5,419	56.7
1928-29	45.2	73.0	40.9	87.3	186	92.0	7,620	79.8
1929-30	45.8	74.0	40.5	86.4	151	74.7	6,109	64.0
1930-31	47.8	77.2	40.7	86.8	195	96.4	7,950	83.2
1931-32	50.2	81.1	41.0	87.5	188	93.0	7,696	80.6
1932-33	53.0	85.6	40.8	87.1	164	81.1	6,704	70.2
1933-34	55.4	89.5	40.4	86.2	180	89.0	7,295	76.4
1934-35	58.0	93.7	41.1	87.7	261	129.1	10,747	112.5
1935-36	58.8	95.0	42.1	89.8	185	91.5	7,787	81.5
1936-37	59.8	96.6	43.6	93.0	174	86.0	7,579	79.3
1937-38	61.9	100.0	46.9	102.2	198	97.9	9,304	97.4
1938-39	63.5	102.6	50.0	106.7	222	109.8	11,106	116.3
1939-40	65.4	105.7	51.7	110.3	232	114.7	11,983	125.5
1940-41	66.7	107.8	52.8	112.7	326	161.2	17,200	180.1
1941-42	67.8	109.6	54.4	116.1	215	106.3	11,700	122.5
1942-43	68.0	110.0	56.2	119.9	265	131.0	14,900	156.0
1943-44	67.9	109.7	58.2	124.2	191	94.5	11,100	116.2
1944-45	67.7	109.4	60.8	129.7	207	102.4	12,600	131.9
1945-46	67.9	109.7	62.9	134.2	230	113.7	14,500	151.8
1946-47	67.0	108.3	63.0	134.2	219	108.3	13,800	144.5
1947-48	66.6	107.6	61.9	132.1	208	102.9	12,900	135.1
1948-49	66.0	106.6	60.0	128.0	167	82.6	10,000	103.6
1949-50 ^a	63.7	102.9	56.6	120.8	201	99.4	11,400	119.3
1950-51	63.9	103.3	55.4	118.2	242	119.7	13,400	140.2
1951-52	63.9	103.3	54.8	116.9	234	115.7	12,800	134.0
1952-53	63.3	102.3	54.6	116.5	231	114.2	12,600	131.9
1953-54	63.2	102.1	54.4	116.1	296	146.4	16,100	168.5
1954-55	61.6	99.5	52.9	112.9	261	121.7	13,800	144.5

(Continued on next page.)

II SIGAT

California Savings, Loan, and Production Company

Table 11 continued.

a/ Acreage data for years beginning with 1949-50 may not be wholly comparable with those of earlier years because of the results of revised surveys completed since 1948 in the various important producing counties.

Sources: Acreage from California Crop and Livestock Reporting Service, Acreage Estimates, California Fruit and Nut Crops, 1919-1953 (Sacramento: State Print. Off., April, 1956), 225p. (California Department of Agriculture Special Publication 257--supplement.) Production from Sunkist Growers, Statistical Information on the Citrus Fruit Industry. (Annual issues.) Yields computed by dividing bearing acreage into production. 1954-55 total and bearing acreage from California Crop and Livestock Reporting Service, Acreage Estimates, California Fruit and Nut Crops, 1954 (Sacramento: State Print. Off., June, 1955). (Annual issues.)

a) Average data for years beginning with 1919-20 may not be wholly comparable with those of earlier years because of the results of several surveys conducted since 1919 in the various important producing countries.

Source: Average from California Crop and Livestock Reporting Service, Average for California Fruit and Nut Crops, 1919-1923 (Sacramento: State

Statistical Information on the United Fruit Industry. (Annual Review). Yield

bearing average from California Crop and Livestock Reporting Service, Average

TABLE 12

Average Size of California-Arizona Lemons Sold as Fresh Fruit

Year	Number of lemons per packed box	Year	Number of lemons per packed box
1925-26	325	1940-41	360
1926-27	329	1941-42	351
1927-28	346	1942-43	356
1928-29	388	1943-44	341
1929-30	353	1944-45	342
1930-31	349	1945-46	349
1931-32	355	1946-47	352
1932-33	364	1947-48	355
1933-34	373	1948-49	376
1934-35	358	1949-50	361
1935-36	372	1950-51	354
1936-37	377	1951-52	356
1937-38	358	1952-53	350
1938-39	366	1953-54	346
1939-40	360	1954-55	346

Source: Compiled by Sunkist Growers.

TABLE 12

Average price of California-Arizona lemons sold as fresh fruit

Year	Per 100 lbs.	Per box
1934-35	3.20	3.20
1935-36	3.25	3.25
1936-37	3.30	3.30
1937-38	3.35	3.35
1938-39	3.40	3.40
1939-40	3.45	3.45
1940-41	3.50	3.50
1941-42	3.55	3.55
1942-43	3.60	3.60
1943-44	3.65	3.65
1944-45	3.70	3.70
1945-46	3.75	3.75
1946-47	3.80	3.80
1947-48	3.85	3.85
1948-49	3.90	3.90
1949-50	3.95	3.95
1950-51	4.00	4.00
1951-52	4.05	4.05
1952-53	4.10	4.10
1953-54	4.15	4.15
1954-55	4.20	4.20
1955-56	4.25	4.25
1956-57	4.30	4.30
1957-58	4.35	4.35
1958-59	4.40	4.40
1959-60	4.45	4.45
1960-61	4.50	4.50
1961-62	4.55	4.55
1962-63	4.60	4.60
1963-64	4.65	4.65
1964-65	4.70	4.70
1965-66	4.75	4.75
1966-67	4.80	4.80
1967-68	4.85	4.85
1968-69	4.90	4.90
1969-70	4.95	4.95
1970-71	5.00	5.00
1971-72	5.05	5.05
1972-73	5.10	5.10
1973-74	5.15	5.15
1974-75	5.20	5.20
1975-76	5.25	5.25
1976-77	5.30	5.30
1977-78	5.35	5.35
1978-79	5.40	5.40
1979-80	5.45	5.45
1980-81	5.50	5.50
1981-82	5.55	5.55
1982-83	5.60	5.60
1983-84	5.65	5.65
1984-85	5.70	5.70
1985-86	5.75	5.75
1986-87	5.80	5.80
1987-88	5.85	5.85
1988-89	5.90	5.90
1989-90	5.95	5.95
1990-91	6.00	6.00
1991-92	6.05	6.05
1992-93	6.10	6.10
1993-94	6.15	6.15
1994-95	6.20	6.20
1995-96	6.25	6.25
1996-97	6.30	6.30
1997-98	6.35	6.35
1998-99	6.40	6.40
1999-00	6.45	6.45
2000-01	6.50	6.50
2001-02	6.55	6.55
2002-03	6.60	6.60
2003-04	6.65	6.65
2004-05	6.70	6.70
2005-06	6.75	6.75
2006-07	6.80	6.80
2007-08	6.85	6.85
2008-09	6.90	6.90
2009-10	6.95	6.95
2010-11	7.00	7.00
2011-12	7.05	7.05
2012-13	7.10	7.10
2013-14	7.15	7.15
2014-15	7.20	7.20
2015-16	7.25	7.25
2016-17	7.30	7.30
2017-18	7.35	7.35
2018-19	7.40	7.40
2019-20	7.45	7.45
2020-21	7.50	7.50
2021-22	7.55	7.55
2022-23	7.60	7.60
2023-24	7.65	7.65
2024-25	7.70	7.70
2025-26	7.75	7.75
2026-27	7.80	7.80
2027-28	7.85	7.85
2028-29	7.90	7.90
2029-30	7.95	7.95
2030-31	8.00	8.00
2031-32	8.05	8.05
2032-33	8.10	8.10
2033-34	8.15	8.15
2034-35	8.20	8.20
2035-36	8.25	8.25
2036-37	8.30	8.30
2037-38	8.35	8.35
2038-39	8.40	8.40
2039-40	8.45	8.45
2040-41	8.50	8.50
2041-42	8.55	8.55
2042-43	8.60	8.60
2043-44	8.65	8.65
2044-45	8.70	8.70
2045-46	8.75	8.75
2046-47	8.80	8.80
2047-48	8.85	8.85
2048-49	8.90	8.90
2049-50	8.95	8.95
2050-51	9.00	9.00
2051-52	9.05	9.05
2052-53	9.10	9.10
2053-54	9.15	9.15
2054-55	9.20	9.20
2055-56	9.25	9.25
2056-57	9.30	9.30
2057-58	9.35	9.35
2058-59	9.40	9.40
2059-60	9.45	9.45
2060-61	9.50	9.50
2061-62	9.55	9.55
2062-63	9.60	9.60
2063-64	9.65	9.65
2064-65	9.70	9.70
2065-66	9.75	9.75
2066-67	9.80	9.80
2067-68	9.85	9.85
2068-69	9.90	9.90
2069-70	9.95	9.95
2070-71	10.00	10.00
2071-72	10.05	10.05
2072-73	10.10	10.10
2073-74	10.15	10.15
2074-75	10.20	10.20
2075-76	10.25	10.25
2076-77	10.30	10.30
2077-78	10.35	10.35
2078-79	10.40	10.40
2079-80	10.45	10.45
2080-81	10.50	10.50
2081-82	10.55	10.55
2082-83	10.60	10.60
2083-84	10.65	10.65
2084-85	10.70	10.70
2085-86	10.75	10.75
2086-87	10.80	10.80
2087-88	10.85	10.85
2088-89	10.90	10.90
2089-90	10.95	10.95
2090-91	11.00	11.00
2091-92	11.05	11.05
2092-93	11.10	11.10
2093-94	11.15	11.15
2094-95	11.20	11.20
2095-96	11.25	11.25
2096-97	11.30	11.30
2097-98	11.35	11.35
2098-99	11.40	11.40
2099-00	11.45	11.45
2100-01	11.50	11.50

TABLE 13

Size Distribution of California-Arizona Fresh Lemons

Year	Per cent each size was of total shipped								Average size
	Size 180	Size 210	Size 252	Size 300	Size 360	Size 432	Size 490	Size 588	
1937-38	0.1	0.6	3.4 ^{a/}	32.1	36.6	14.3 ^{b/}	5.1	4.1 ^{c/}	357.9
1938-39	0.1	0.8	4.5	27.5	39.4	17.5 ^{b/}	6.6	3.6 ^{c/}	366.0
1939-40	0.1	0.9	5.1	30.0	39.6	15.4	5.8	3.1 ^{c/}	360.4
1940-41	0.1	1.7	9.8	30.7	34.9	15.1	5.6	2.1 ^{c/}	351.2
1941-42	0.1	1.8	8.9	28.7	35.2	16.4	6.8	2.1	355.8
1942-43	0.7	5.1	15.9	25.6	29.2	16.0	6.0	1.5	341.4
1943-44	0.7	3.7	12.9	25.2	31.0	16.4	7.3	2.8	351.8
1944-45	1.0	3.9	13.9	27.3	31.6	15.2	5.9	1.2	342.3
1945-46	0.4	2.5	10.7	25.9	37.0	18.1	5.1	0.3	348.8
1946-47	0.3	1.8	9.0	26.7	38.0	18.1	5.8	0.3	351.7
1947-48	0.3	2.2	9.7	24.9	36.6	19.2	6.9	0.2	354.7
1948-49	0.3	1.4	7.0	21.6	33.6	20.5	11.5	4.1	376.0
1949-50	0.1	1.3	7.4	26.9	37.1	17.1	7.7	2.4	361.4
1950-51	0.1	1.4	8.5	28.2	37.7	16.7	6.5	0.9	354.0
1951-52	0.2	1.7	9.5	26.4	36.3	17.1	7.6	1.2	356.0
1952-53	0.1	2.0	10.3	30.6	34.3	14.6	6.8	1.3	350.0
1953-54	—	2.3	10.9	31.2	34.4	14.4	5.8	1.0	346.0
1954-55	0.1	2.0	9.6	32.4	35.2	14.3	5.5	0.9	346.0

a/ Size 240.

b/ Includes size 442.

c/ Includes size 540; also 1937-38 includes 0.3 per cent smaller than 588; and 1938-39, 0.1 per cent smaller.

Source: Compiled by Sunkist Growers.

TABLE 13

Size Distribution of California-African Fresh Lemons

Size	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42	2042-43	2043-44	2044-45	2045-46	2046-47	2047-48	2048-49	2049-50	2050-51	2051-52	2052-53	2053-54	2054-55	2055-56	2056-57	2057-58	2058-59	2059-60	2060-61	2061-62	2062-63	2063-64	2064-65	2065-66	2066-67	2067-68	2068-69	2069-70	2070-71	2071-72	2072-73	2073-74	2074-75	2075-76	2076-77	2077-78	2078-79	2079-80	2080-81	2081-82	2082-83	2083-84	2084-85	2085-86	2086-87	2087-88	2088-89	2089-90	2090-91	2091-92	2092-93	2093-94	2094-95	2095-96	2096-97	2097-98	2098-99	2099-00	2100-01	2101-02	2102-03	2103-04	2104-05	2105-06	2106-07	2107-08	2108-09	2109-10	2110-11	2111-12	2112-13	2113-14	2114-15	2115-16	2116-17	2117-18	2118-19	2119-20	2120-21	2121-22	2122-23	2123-24	2124-25	2125-26	2126-27	2127-28	2128-29	2129-30	2130-31	2131-32	2132-33	2133-34	2134-35	2135-36	2136-37	2137-38	2138-39	2139-40	2140-41	2141-42	2142-43	2143-44	2144-45	2145-46	2146-47	2147-48	2148-49	2149-50	2150-51	2151-52	2152-53	2153-54	2154-55	2155-56	2156-57	2157-58	2158-59	2159-60	2160-61	2161-62	2162-63	2163-64	2164-65	2165-66	2166-67	2167-68	2168-69	2169-70	2170-71	2171-72	2172-73	2173-74	2174-75	2175-76	2176-77	2177-78	2178-79	2179-80	2180-81	2181-82	2182-83	2183-84	2184-85	2185-86	2186-87	2187-88	2188-89	2189-90	2190-91	2191-92	2192-93	2193-94	2194-95	2195-96	2196-97	2197-98	2198-99	2199-00	2200-01	2201-02	2202-03	2203-04	2204-05	2205-06	2206-07	2207-08	2208-09	2209-10	2210-11	2211-12	2212-13	2213-14	2214-15	2215-16	2216-17	2217-18	2218-19	2219-20	2220-21	2221-22	2222-23	2223-24	2224-25	2225-26	2226-27	2227-28	2228-29	2229-30	2230-31	2231-32	2232-33	2233-34	2234-35	2235-36	2236-37	2237-38	2238-39	2239-40	2240-41	2241-42	2242-43	2243-44	2244-45	2245-46	2246-47	2247-48	2248-49	2249-50	2250-51	2251-52	2252-53	2253-54	2254-55	2255-56	2256-57	2257-58	2258-59	2259-60	2260-61	2261-62	2262-63	2263-64	2264-65	2265-66	2266-67	2267-68	2268-69	2269-70	2270-71	2271-72	2272-73	2273-74	2274-75	2275-76	2276-77	2277-78	2278-79	2279-80	2280-81	2281-82	2282-83	2283-84	2284-85	2285-86	2286-87	2287-88	2288-89	2289-90	2290-91	2291-92	2292-93	2293-94	2294-95	2295-96	2296-97	2297-98	2298-99	2299-00	2300-01	2301-02	2302-03	2303-04	2304-05	2305-06	2306-07	2307-08	2308-09	2309-10	2310-11	2311-12	2312-13	2313-14	2314-15	2315-16	2316-17	2317-18	2318-19	2319-20	2320-21	2321-22	2322-23	2323-24	2324-25	2325-26	2326-27	2327-28	2328-29	2329-30	2330-31	2331-32	2332-33	2333-34	2334-35	2335-36	2336-37	2337-38	2338-39	2339-40	2340-41	2341-42	2342-43	2343-44	2344-45	2345-46	2346-47	2347-48	2348-49	2349-50	2350-51	2351-52	2352-53	2353-54	2354-55	2355-56	2356-57	2357-58	2358-59	2359-60	2360-61	2361-62	2362-63	2363-64	2364-65	2365-66	2366-67	2367-68	2368-69	2369-70	2370-71	2371-72	2372-73	2373-74	2374-75	2375-76	2376-77	2377-78	2378-79	2379-80	2380-81	2381-82	2382-83	2383-84	2384-85	2385-86	2386-87	2387-88	2388-89	2389-90	2390-91	2391-92	2392-93	2393-94	2394-95	2395-96	2396-97	2397-98	2398-99	2399-00	2400-01	2401-02	2402-03	2403-04	2404-05	2405-06	2406-07	2407-08	2408-09	2409-10	2410-11	2411-12	2412-13	2413-14	2414-15	2415-16	2416-17	2417-18	2418-19	2419-20	2420-21	2421-22	2422-23	2423-24	2424-25	2425-26	2426-27	2427-28	2428-29	2429-30	2430-31	2431-32	2432-33	2433-34	2434-35	2435-36	2436-37	2437-38	2438-39	2439-40	2440-41	2441-42	2442-43	2443-44	2444-45	2445-46	2446-47	2447-48	2448-49	2449-50	2450-51	2451-52	2452-53	2453-54	2454-55	2455-56	2456-57	2457-58	2458-59	2459-60	2460-61	2461-62	2462-63	2463-64	2464-65	2465-66	2466-67	2467-68	2468-69	2469-70	2470-71	2471-72	2472-73	2473-74	2474-75	2475-76	2476-77	2477-78	2478-79	2479-80	2480-81	2481-82	2482-83	2483-84	2484-85	2485-86	2486-87	2487-88	2488-89	2489-90	2490-91	2491-92	2492-93	2493-94	2494-95	2495-96	2496-97	2497-98	2498-99	2499-00	2500-01	2501-02	2502-03	2503-04	2504-05	2505-06	2506-07	2507-08	2508-09	2509-10	2510-11	2511-12	2512-13	2513-14	2514-15	2515-16	2516-17	2517-18	2518-19	2519-20	2520-21	2521-22	2522-23	2523-24	2524-25	2525-26	2526-27	2527-28	2528-29	2529-30	2530-31	2531-32	2532-33	2533-34	2534-35	2535-36	2536-37	2537-38	2538-39	2539-40	2540-41	2541-42	2542-43	2543-44	2544-45	2545-46	2546-47	2547-48	2548-49	2549-50	2550-51	2551-52	2552-53	2553-54	2554-55	2555-56	2556-57	2557-58	2558-59	2559-60	2560-61	2561-62	2562-63	2563-64	2564-65	2565-66	2566-67	2567-68	2568-69	2569-70	2570-71	2571-72	2572-73	2573-74	2574-75	2575-76	2576-77	2577-78	2578-79	2579-80	2580-81	2581-82	2582-83	2583-84	2584-85	2585-86	2586-87	2587-88	2588-89	2589-90	2590-91	2591-92	2592-93	2593-94	2594-95	2595-96	2596-97	2597-98	2598-99	2599-00	2600-01	2601-02	2602-03	2603-04	2604-05	2605-06	2606-07	2607-08	2608-09	2609-10	2610-11	2611-12	2612-13	2613-14	2614-15	2615-16	2616-17	2617-18	2618-19	2619-20	2620-21	2621-22	2622-23	2623-24	2624-25	2625-26	2626-27	2627-28	2628-29	2629-30	2630-31	2631-32	2632-33	2633-34	2634-35	2635-36	2636-37	2637-38	2638-39	2639-40	2640-41	2641-42	2642-43	2643-44	2644-45	2645-46	2646-47	2647-48	2648-49	2649-50	2650-51	2651-52	2652-53	2653-54	2654-55	2655-56	2656-57	2657-58	2658-59	2659-60	2660-61	2661-62	2662-63	2663-64	2664-65	2665-66	2666-67	2667-68	2668-69	2669-70	2670-71	2671-72	2672-73	2673-74	2674-75	2675-76	2676-77	2677-78	2678-79	2679-80	2680-81	2681-82	2682-83	2683-84	2684-85	2685-86	2686-87	2687-88	2688-89	2689-90	2690-91	2691-92	2692-93	2693-94	2694-95	2695-96	2696-97	2697-98	2698-99	2699-00	2700-01	2701-02	2702-03	2703-04	2704-05	2705-06	2706-07	2707-08	2708-09	2709-10	2710-11	2711-12	2712-13	2713-14	2714-15	2715-16	2716-17	2717-18	2718-19	2719-20	2720-21	2721-22	2722-23	2723-24	2724-25	2725-26	2726-27	2727-28	2728-29	2729-30	2730-31	2731-32	2732-33	2733-34	2734-35	2735-36	2736-37	2737-38	2738-39	2739-40	2740-41	2741-42	2742-43	2743-44	2744-45	2745-46	2746-47	2747-48	2748-49	2749-50	2750-51	2751-52	2752-53	2753-54	2754-55	2755-56	2756-57	2757-58	2758-59	2759-60	2760-61	2761-62	2762-63	2763-64	2764-65	2765-66	2766-67	2767-68	2768-69	2769-70	2770-71	2771-72	2772-73	2773-74	2774-75	2775-76	2776-77	2777-78	2778-79	2779-80	2780-81	2781-82	2782-83	2783-84	2784-85	2785-86	2786-87	2787-88	2788-89	2789-90	2790-91	2791-92	2792-93	2793-94	2794-95	2795-96	2796-97	2797-98	2798-99	2799-00	2800-01	2801-02	2802-03	2803-04	2804-05	2805-06	2806-07	2807-08	2808-09	2809-10	2810-11	2811-12	2812-13	2813-14	2814-15	2815-16	2816-17	2817-18	2818-19	2819-20	2820-21	2821-22	2822-23	2823-24	2824-25	2825-26	2826-27	2827-28	2828-29	2829-30	2830-31	2831-32	2832-33	2833-34	2834-35	2835-36	2836-37	2837-38	2838-39	2839-40	2840-41	2841-42	2842-43	2843-44	2844-45	2845-46	2846-47	2847-48	2848-49	2849-50	2850-51	2851-52	2852-53	2853-54	2854-55	2855-56	2856-57	2857-58	2858-59	2859-60	2860-61	2861-62	2862-63	2863-64	2864-65	2865-66	2866-67	2867-68	2868-69	2869-70	2870-71	2871-72	2872-73	2873-74	2874-75	2875-76	2876-77	2877-78	2878-79	2879-80	2880-81	2881-82	2882-83	2883-84	2884-85	2885-86	2886-87	2887-88	2888-89	2889-90	2890-91	2891-92	2892-93	2893-94	2894-95	2895-96	2896-97	2897-98	2898-99	2899-00	2900-01	2901-02	2902-03	2903-04	2904-05	2905-06	2906-07	2907-08	2908-09	2909-10	2910-11	2911-12	2912-13	2913-14	2914-15	2915-16	2916-17	2917-18	2918-19	2919-20	2920-21	2921-22	2922-23	2923-24	2924-25	2925-26	2926-27	2927-28	2928-29	2929-30	2930-31	2931-32	2932-33	2933-34	2934-35	2935-36	2936-37	2937-38	2938-39	2939-40	2940-41	2941-42	2942-43	2943-44	2944-45	2945-46	2946-47	2947-48	2948-49	2949-50	2950-51	2951-52	2952-53	2953-54	2954-55	2955-56	2956-57	2957-58	2958-59	2959
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TABLE 14

Utilization of California Lemons

Year	Total sales	Fresh sales	Processed and eliminated	Processed as per cent of total
	thousand packed boxes			per cent
1919-20	4,521	4,038	483	10.7
1920-21	5,630	5,037	593	10.5
1921-22	4,366	4,085	281	6.4
1922-23	3,772	3,676	96	2.5
1923-24	6,421	5,264	1,157	18.0
1924-25	5,290	4,775	515	9.7
1925-26	7,305	5,821	1,484	20.3
1926-27	6,849	4,534	2,315	33.8
1927-28	5,406	4,895	511	9.5
1928-29	7,607	5,574	2,033	26.7
1929-30	6,095	5,629	466	7.6
1930-31	7,936	5,704	2,232	28.1
1931-32	7,682	5,247	2,435	31.7
1932-33	6,690	5,742	948	14.2
1933-34	7,281	6,194	1,087	14.9
1934-35	10,733	7,184	3,549	33.1
1935-36	7,773	7,422	351	4.5
1936-37	7,565	6,533	1,032	13.6
1937-38	9,290	7,761	1,529	16.5
1938-39	11,092	7,777	3,315	29.9
1939-40	11,969	8,327	3,642	30.4
1940-41	16,719	8,863	7,856	47.0
1941-42	11,705	7,870	3,835	32.8
1942-43	14,865	9,640	5,225	35.1
1943-44	11,035	9,264	1,771	16.0
1944-45	12,535	9,635	2,900	23.1
1945-46	14,435	9,115	5,321	36.9
1946-47	13,785	9,371	4,414	32.0
1947-48	12,855	8,469	4,386	34.1
1948-49	9,995	7,780	2,215	22.2
1949-50	11,400	7,800	3,600	31.6
1950-51	13,500	8,300	5,200	38.0
1951-52	12,800	8,400	4,400	35.5
1952-53	12,600	8,200	4,400	35.6
1953-54	16,100	8,500	7,600	47.1
1954-55	14,000	9,100	4,900	35.3

Sources: U. S. Bureau of Agricultural Economics and U. S. Agricultural Marketing Service, Citrus Fruits; Production, Farm Disposition, Value, and Utilization of Sales (Washington, D. C.). (Annual issues.) Processed. Also, Sunkist Growers, Statistical Information on the Citrus Fruit Industry. (Annual issues.)

TABLE 15

California-Arizona Industry Shipments of Lemons and Percentage Shipped Fresh

Year	United States	Canada	Total fresh shipments to United States and Canada	California- Arizona utilization	Fresh shipments to United States and Canada as per cent of total utilization
	1	2	3	4	5
	standard cars, 406 boxes per car				per cent
1941-42	18,400	1,182	19,582	29,097	67.3
1942-43	22,343	1,108	23,451	37,017	63.4
1943-44	21,703	1,182	22,885	28,232	81.1
1944-45	21,426	1,355	22,781	30,578	74.5
1945-46	20,764	1,281	22,045	35,775	61.6
1946-47	21,311	1,059	22,370	33,321	67.1
1947-48	20,278	320	20,598	31,972	64.4
1948-49	19,070	271	19,341	25,634	75.5
1949-50	17,305	591	17,896	25,822	69.3
1950-51	18,824	887	19,711	33,240	59.3
1951-52	19,147	961	20,108	32,722	61.5
1952-53	18,374	911	19,285	31,405	61.4
1953-54	18,460	862	19,322	41,103	47.0
1954-55	17,957	982	18,939	34,711	54.6

Sources: Compiled by Sunkist Growers from data issued by the following agencies:

Col. 1: Column 3 minus column 2.

Col. 2: U. S. Department of Commerce.

Cols. 3-4: Lemon Administrative Committee.

COPIES OF THE REPORT

TABLE 16

Production and Utilization of California Lemons and
United States Lemon-Juice Imports

Year	Total production	Fresh use	Juice from domestic and import sources	Juice imports	Total of fresh, juice, and imports
	1	2	3	4	5
	standard cars, 406 boxes per car				
1938-39	27,340	19,212	188		19,400
1939-40	29,557	20,443	375		20,818
1940-41	42,365	21,921	1,750		23,671
1941-42	28,818	19,458	1,125		20,583
1942-43	36,700	23,645	3,313		26,958
1943-44	27,094	22,906	1,625		24,531
1944-45	31,034	23,645	2,813		26,458
1945-46	35,714	22,414	3,313		25,727
1946-47	33,990	23,153	2,375		25,528
1947-48	31,773	20,936	3,813		24,749
1948-49	24,631	19,212	4,625	324	23,837
1949-50	28,079	19,212	6,750	609	25,962
1950-51	33,005	20,443	6,500	687	26,943
1951-52	31,527	20,690	9,898	585	30,588
1952-53	31,034	20,197	10,919	1,481	31,116
1953-54	39,655	20,936	10,824	2,011	31,760
1954-55 ^{a/}	34,483	22,414	12,541	2,041	34,955

^{a/} Preliminary.

Sources: Compiled by Sunkist Growers from data used by the following agencies:

Cols. 1-2: U. S. Department of Agriculture.

Col. 3: 1938-39 to 1949-50--calculated cars of juice packs (U. S. Department of Agriculture) and imports (U. S. Department of Commerce).

1950-51 to 1954-55--calculated cars of juice sales (Lemon Products Advisory Board) and imports (U. S. Department of Commerce).

Col. 4: U. S. Department of Commerce.

Col. 5: Computed--column 2 plus column 3.

TABLE 16

Production and Utilization of California Lemons and
Chief States Lemon-Juice Imports

Year	Total	Juice from domestic and foreign	Juice from foreign	Total of fresh, juice
1938-39	25,100	22,212	178	25,100
1939-40	26,727	20,443	392	26,727
1940-41	25,845	21,921	1,700	25,845
1941-42	26,008	19,458	1,705	26,008
1942-43	26,100	21,515	2,323	26,100
1943-44	27,001	22,906	1,725	27,001
1944-45	27,001	23,815	2,213	27,001
1945-46	27,111	22,441	2,703	27,111
1946-47	27,220	23,121	2,705	27,220
1947-48	27,113	20,328	2,813	27,113
1948-49	27,113	18,218	2,725	27,113
1949-50	27,009	18,218	2,720	27,009
1950-51	27,005	20,000	2,700	27,005
1951-52	27,107	20,220	2,708	27,107
1952-53	27,001	20,220	2,708	27,001
1953-54	27,001	20,220	2,708	27,001
1954-55	27,001	20,220	2,708	27,001
1955-56	27,001	20,220	2,708	27,001
1956-57	27,001	20,220	2,708	27,001
1957-58	27,001	20,220	2,708	27,001
1958-59	27,001	20,220	2,708	27,001

Source: Compiled by Bureau of Census from data used by the following agencies:

- 1938-59: U. S. Department of Agriculture.
- 1938-59 to 1958-59: U. S. Department of Agriculture (U. S. Department of Agriculture) and imports (U. S. Department of Agriculture).
- 1959-60 to 1959-60: U. S. Department of Agriculture (U. S. Department of Agriculture) and imports (U. S. Department of Agriculture).
- U. S. Department of Commerce.
- U. S. Department of Commerce.

TABLE 17

On-Tree Value of California Fresh and Processed Lemons

Year	Fresh					Processed			
	Volume	On-tree price	On-tree price	On-tree value	Per cent fresh of total value	Volume	On-tree price	On-tree price	On-tree value
	1	2	3	4	5	6	7	8	9
	million boxes	dollars per box	dollars per ton	million dollars	per cent	million boxes	dollars per box	dollars per ton	million dollars
1940-41	8.9	1.57	39.72	14.0	95.9	8.3	.07	1.77	.6
1941-42	7.9	1.70	43.01	13.4	95.0	3.8	.19	4.81	.7
1942-43	9.6	2.82	71.35	27.1	95.1	5.3	.26	6.58	1.4
1943-44	9.3	3.12	78.94	29.0	97.3	1.7	.47	11.89	.8
1944-45	9.6	2.59	65.53	24.9	97.3	3.0	.24	6.07	.7
1945-46	9.1	2.22	56.17	20.2	106.9	5.4	-.24	-6.07	-1.3
1946-47	9.4	3.07	77.67	28.9	104.3	4.4	-.28	-7.08	-1.2
1947-48	8.5	3.02	76.41	25.7	106.6	4.4	-.36	-9.11	-1.6
1948-49	7.8	4.50	113.85	35.1	99.7	2.2	.05	1.27	.1
1949-50	7.8	3.43	86.78	26.8	86.5	2.6	1.60	40.48	4.2
1950-51	8.3	3.21	81.23	26.6	95.7	5.1	.24	6.07	1.2
1951-52	8.4	3.69	93.36	31.0	90.1	4.4	.77	19.48	3.4
1952-53	8.2	3.71	93.86	30.4	77.7	4.4	1.98	50.09	8.7
1953-54	8.5	3.38	85.51	28.7	89.4	7.6	.45	11.39	3.4
1954-55 ^{a/}	9.1	3.01	76.15	27.4	103.4	4.9	-.18	-4.55	-.9

^{a/} Preliminary.

Sources: Compiled by Sunkist Growers from data issued by the following agencies:

- Cols. 1-2: U. S. Department of Agriculture.
- Col. 3: Computed, 25.3 boxes per ton.
- Col. 4: Computed, column 1 times column 2.
- Col. 5: Computed, fresh value divided by total value.
- Cols. 6-7: U. S. Department of Agriculture.
- Col. 8: Computed, 25.3 boxes per ton.
- Col. 9: Computed, column 6 times column 7.

LOT* 2: CONTAINER: CONTAIN 2 TIMES 1.
 LOT* 3: CONTAINER: CONTAIN 2 TIMES 1.
 LOT* 4-1: CONTAINER: CONTAIN 2 TIMES 1.
 LOT* 2: CONTAINER: CONTAIN 2 TIMES 1.
 LOT* 4: CONTAINER: CONTAIN 2 TIMES 1.
 LOT* 4: CONTAINER: CONTAIN 2 TIMES 1.
 LOT* 1-2: CONTAINER: CONTAIN 2 TIMES 1.

consegue: Condições de trabalho precárias e baixa remuneração:
A situação financeira.

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TABLE 13

TABLE 18

United States Per-Capita Consumption Disappearance of Fresh Lemons
and United States Per-Capita Availability of Lemon-Juice Products

Year (November-October)	United States per-capita con- sumption of fresh lemons	United States per- capita production for consumption of lemon-juice products adjusted for imports	Total United States per-capita usage of fresh and juice lemons
	1	2	3
	pounds	pounds, fresh equivalent	
1938-39	4.1	.04	4.14
1939-40	4.5	.1	4.6
1940-41	4.6	.4	5.0
<u>Three-year pre- war average:</u>	4.4	.2	4.6
1941-42	4.2	.3	4.5
1942-43	5.0	.8	5.8
1943-44	4.9	.4	5.3
1944-45	5.1	.7	5.8
1945-46	4.7	.8	5.5
1946-47	4.7	.5	5.2
1947-48	4.4	.8	5.2
1948-49	4.1	1.0	5.1
1949-50	3.9	1.4	5.3
1950-51	3.9	1.4	5.3
1951-52	3.8	2.0	5.8
1952-53	3.6	2.2	5.8
1953-54	3.6	2.1	5.7
1954-55	3.5	2.4	5.9
1952-53 to 1954-55 average:	3.6	2.2	5.8

Sources: Compiled by Sunkist Growers.

Col. 1: U. S. Agricultural Marketing Service.

Col. 2: From Table 19.

TABLE 16

United States Per-Capita Consumption Disappearance of Fresh Lemons and United States Per-Capita Availability of Lemon-Juice Products

Year (1947-01-01)	United States consumption of fresh lemons	United States per-capita production of lemon-juice products available for liquid consumption	Total United States per-capita usage of fresh and liquid lemon
1947-48	1.1	1.1	2.2
1948-49	1.2	1.2	2.4
1949-50	1.3	1.3	2.6
1950-51	1.4	1.4	2.8
1951-52	1.5	1.5	3.0
1952-53	1.6	1.6	3.2
1953-54	1.7	1.7	3.4
1954-55	1.8	1.8	3.6
1955-56	1.9	1.9	3.8
1956-57	2.0	2.0	4.0
1957-58	2.1	2.1	4.2
1958-59	2.2	2.2	4.4
1959-60	2.3	2.3	4.6
1960-61	2.4	2.4	4.8
1961-62	2.5	2.5	5.0
1962-63	2.6	2.6	5.2
1963-64	2.7	2.7	5.4
1964-65	2.8	2.8	5.6
1965-66	2.9	2.9	5.8
1966-67	3.0	3.0	6.0
1967-68	3.1	3.1	6.2
1968-69	3.2	3.2	6.4
1969-70	3.3	3.3	6.6
1970-71	3.4	3.4	6.8
1971-72	3.5	3.5	7.0
1972-73	3.6	3.6	7.2
1973-74	3.7	3.7	7.4
1974-75	3.8	3.8	7.6
1975-76	3.9	3.9	7.8
1976-77	4.0	4.0	8.0
1977-78	4.1	4.1	8.2
1978-79	4.2	4.2	8.4
1979-80	4.3	4.3	8.6
1980-81	4.4	4.4	8.8
1981-82	4.5	4.5	9.0
1982-83	4.6	4.6	9.2
1983-84	4.7	4.7	9.4
1984-85	4.8	4.8	9.6
1985-86	4.9	4.9	9.8
1986-87	5.0	5.0	10.0
1987-88	5.1	5.1	10.2
1988-89	5.2	5.2	10.4
1989-90	5.3	5.3	10.6
1990-91	5.4	5.4	10.8
1991-92	5.5	5.5	11.0
1992-93	5.6	5.6	11.2
1993-94	5.7	5.7	11.4
1994-95	5.8	5.8	11.6
1995-96	5.9	5.9	11.8
1996-97	6.0	6.0	12.0
1997-98	6.1	6.1	12.2
1998-99	6.2	6.2	12.4
1999-00	6.3	6.3	12.6
2000-01	6.4	6.4	12.8
2001-02	6.5	6.5	13.0
2002-03	6.6	6.6	13.2
2003-04	6.7	6.7	13.4
2004-05	6.8	6.8	13.6
2005-06	6.9	6.9	13.8
2006-07	7.0	7.0	14.0
2007-08	7.1	7.1	14.2
2008-09	7.2	7.2	14.4
2009-10	7.3	7.3	14.6
2010-11	7.4	7.4	14.8
2011-12	7.5	7.5	15.0
2012-13	7.6	7.6	15.2
2013-14	7.7	7.7	15.4
2014-15	7.8	7.8	15.6
2015-16	7.9	7.9	15.8
2016-17	8.0	8.0	16.0
2017-18	8.1	8.1	16.2
2018-19	8.2	8.2	16.4
2019-20	8.3	8.3	16.6
2020-21	8.4	8.4	16.8
2021-22	8.5	8.5	17.0
2022-23	8.6	8.6	17.2
2023-24	8.7	8.7	17.4
2024-25	8.8	8.8	17.6
2025-26	8.9	8.9	17.8
2026-27	9.0	9.0	18.0
2027-28	9.1	9.1	18.2
2028-29	9.2	9.2	18.4
2029-30	9.3	9.3	18.6
2030-31	9.4	9.4	18.8
2031-32	9.5	9.5	19.0
2032-33	9.6	9.6	19.2
2033-34	9.7	9.7	19.4
2034-35	9.8	9.8	19.6
2035-36	9.9	9.9	19.8
2036-37	10.0	10.0	20.0
2037-38	10.1	10.1	20.2
2038-39	10.2	10.2	20.4
2039-40	10.3	10.3	20.6
2040-41	10.4	10.4	20.8
2041-42	10.5	10.5	21.0
2042-43	10.6	10.6	21.2
2043-44	10.7	10.7	21.4
2044-45	10.8	10.8	21.6
2045-46	10.9	10.9	21.8
2046-47	11.0	11.0	22.0
2047-48	11.1	11.1	22.2
2048-49	11.2	11.2	22.4
2049-50	11.3	11.3	22.6
2050-51	11.4	11.4	22.8
2051-52	11.5	11.5	23.0
2052-53	11.6	11.6	23.2
2053-54	11.7	11.7	23.4
2054-55	11.8	11.8	23.6
2055-56	11.9	11.9	23.8
2056-57	12.0	12.0	24.0
2057-58	12.1	12.1	24.2
2058-59	12.2	12.2	24.4
2059-60	12.3	12.3	24.6
2060-61	12.4	12.4	24.8
2061-62	12.5	12.5	25.0
2062-63	12.6	12.6	25.2
2063-64	12.7	12.7	25.4
2064-65	12.8	12.8	25.6
2065-66	12.9	12.9	25.8
2066-67	13.0	13.0	26.0
2067-68	13.1	13.1	26.2
2068-69	13.2	13.2	26.4
2069-70	13.3	13.3	26.6
2070-71	13.4	13.4	26.8
2071-72	13.5	13.5	27.0
2072-73	13.6	13.6	27.2
2073-74	13.7	13.7	27.4
2074-75	13.8	13.8	27.6
2075-76	13.9	13.9	27.8
2076-77	14.0	14.0	28.0
2077-78	14.1	14.1	28.2
2078-79	14.2	14.2	28.4
2079-80	14.3	14.3	28.6
2080-81	14.4	14.4	28.8
2081-82	14.5	14.5	29.0
2082-83	14.6	14.6	29.2
2083-84	14.7	14.7	29.4
2084-85	14.8	14.8	29.6
2085-86	14.9	14.9	29.8
2086-87	15.0	15.0	30.0
2087-88	15.1	15.1	30.2
2088-89	15.2	15.2	30.4
2089-90	15.3	15.3	30.6
2090-91	15.4	15.4	30.8
2091-92	15.5	15.5	31.0
2092-93	15.6	15.6	31.2
2093-94	15.7	15.7	31.4
2094-95	15.8	15.8	31.6
2095-96	15.9	15.9	31.8
2096-97	16.0	16.0	32.0
2097-98	16.1	16.1	32.2
2098-99	16.2	16.2	32.4
2099-00	16.3	16.3	32.6
2100-01	16.4	16.4	32.8
2101-02	16.5	16.5	33.0
2102-03	16.6	16.6	33.2
2103-04	16.7	16.7	33.4
2104-05	16.8	16.8	33.6
2105-06	16.9	16.9	33.8
2106-07	17.0	17.0	34.0
2107-08	17.1	17.1	34.2
2108-09	17.2	17.2	34.4
2109-10	17.3	17.3	34.6
2110-11	17.4	17.4	34.8
2111-12	17.5	17.5	35.0
2112-13	17.6	17.6	35.2
2113-14	17.7	17.7	35.4
2114-15	17.8	17.8	35.6
2115-16	17.9	17.9	35.8
2116-17	18.0	18.0	36.0
2117-18	18.1	18.1	36.2
2118-19	18.2	18.2	36.4
2119-20	18.3	18.3	36.6
2120-21	18.4	18.4	36.8
2121-22	18.5	18.5	37.0
2122-23	18.6	18.6	37.2
2123-24	18.7	18.7	37.4
2124-25	18.8	18.8	37.6
2125-26	18.9	18.9	37.8
2126-27	19.0	19.0	38.0
2127-28	19.1	19.1	38.2
2128-29	19.2	19.2	38.4
2129-30	19.3	19.3	38.6
2130-31	19.4	19.4	38.8
2131-32	19.5	19.5	39.0
2132-33	19.6	19.6	39.2
2133-34	19.7	19.7	39.4
2134-35	19.8	19.8	39.6
2135-36	19.9	19.9	39.8
2136-37	20.0	20.0	40.0
2137-38	20.1	20.1	40.2
2138-39	20.2	20.2	40.4
2139-40	20.3	20.3	40.6
2140-41	20.4	20.4	40.8
2141-42	20.5	20.5	41.0
2142-43	20.6	20.6	41.2
2143-44	20.7	20.7	41.4
2144-45	20.8	20.8	41.6
2145-46	20.9	20.9	41.8
2146-47	21.0	21.0	42.0
2147-48	21.1	21.1	42.2
2148-49	21.2	21.2	42.4
2149-50	21.3	21.3	42.6
2150-51	21.4	21.4	42.8
2151-52	21.5	21.5	43.0
2152-53	21.6	21.6	43.2
2153-54	21.7	21.7	43.4
2154-55	21.8	21.8	43.6
2155-56	21.9	21.9	43.8
2156-57	22.0	22.0	44.0
2157-58	22.1	22.1	44.2
2158-59	22.2	22.2	44.4
2159-60	22.3	22.3	44.6
2160-61	22.4	22.4	44.8
2161-62	22.5	22.5	45.0
2162-63	22.6	22.6	45.2
2163-64	22.7	22.7	45.4
2164-65	22.8	22.8	45.6
2165-66	22.9	22.9	45.8
2166-67	23.0	23.0	46.0
2167-68	23.1	23.1	46.2
2168-69	23.2	23.2	46.4
2169-70	23.3	23.3	46.6
2170-71	23.4	23.4	46.8
2171-72	23.5	23.5	47.0
2172-73	23.6	23.6	47.2
2173-74	23.7	23.7	47.4
2174-75	23.8	23.8	47.6
2175-76	23.9	23.9	47.8
2176-77	24.0	24.0	48.0
2177-78	24.1	24.1	48.2
2178-79	24.2	24.2	48.4
2179-80	24.3	24.3	48.6
2180-81	24.4	24.4	48.8
2181-82	24.5	24.5	49.0
2182-83	24.6	24.6	49.2
2183-84	24.7	24.7	49.4
2184-85	24.8	24.8	49.6
2185-86	24.9	24.9	49.8
2186-87	25.0	25.0	50.0
2187-88	25.1	25.1	50.2
2188-89	25.2	25.2	50.4
2189-90	25.3	25.3	50.6
2190-91	25.4	25.4	50.8
2191-92	25.5	25.5	51.0
2192-93	25.6	25.6	51.2
2193-94	25.7	25.7	51.4
2194-95	25.8	25.8	51.6
2195-96	25.9	25.9	51.8
2196-97	26.0	26.0	52.0
2197-98	26.1	26.1	52.2
2198-99	26.2	26.2	52.4
2199-00	26.3	26.3	52.6
2200-01	26.4	26.4	52.8
2201-02	26.5	26.5	53.0
2202-03	26.6	26.6	53.2
2203-04	26.7	26.7	53.4
2204-05	26.8	26.8	53.6
2205-06	26.9	26.9	53.8
2206-07	27.0	27.0	54.0
2207-08	27.1	27.1	54.2
2208-09	27.2	27.2	54.4
2209-10	27.3	27.3	54.6
2210-11	27.4	27.4	54.8
2211-12	27.5	27.5	55.0
2212-13	27.6	27.6	55.2
2213-14	27.7	27.7	55.4
2214-15	27.8	27.8	55.6
2215-16	27.9	27.9	55.8
2216-17	28.0	28.0	56.0
2217-18	28.1	28.1	56.2
2218-19	28.2	28.2	56.4
2219-20	28.3	28.3	56.6
2220-21	28.4	28.4	56.8
2221-22	28.5	28.5	57.0

TABLE 19

United States Per-Capita Production for Consumption of Lemon-Juice Products
Adjusted for Imports^{a/}

Year (November- October)	Packs of lemon- juice products				United States imports, single- strength and con- centrate juice	Calculated lemon tonnage equivalent of packs and imports							United States popula- tion eat- ing out of civil- ian food supplies	Total United States per- capita juice use
	Canned single strength	Frozen single strength	Fresh	Con- cen- trate		Canned single- strength juice	Frozen single- strength juice	Fresh juice	Con- cen- trate	United States imports	Total	Total		
	1	2	3	4		6	7	8	9	10	11	12		
	thousand cases, 24 No. 2 cans	thousand gallons			thousand gallons, single- strength equiva- lent	thousand tons						million pounds	million persons	pounds, fresh equiva- lent
1938-39	59	b/	b/	b/	--	3				--	3	6	132.7	.04
1939-40	128	b/	b/	b/	2	6				c/	6	12	134.0	.1
1940-41	294	b/	b/	192	--	13			15	--	28	56	133.7	.4
1941-42	228	b/	b/	99	1	10			8	c/	18	36	133.3	.3
1942-43	29	b/	b/	682	3	1			52	c/	53	106	130.6	.8
1943-44	111	b/	b/	277	--	5			21	--	26	52	130.3	.4
1944-45	330	b/	b/	393	--	15			30	--	45	90	130.9	.7
1945-46	627	219	26	280	--	28	3	c/	22	--	53	106	140.3	.8
1946-47	327	151	168	244	--	15	2	2	19	--	38	76	144.6	.5
1947-48	492	231	154	446	2	22	3	2	34	c/	61	122	147.2	.8
1948-49	454	179	148	579	389	20	2	2	45	5	74	148	149.6	1.0
1949-50	518	2,252 ^{d/}	142	614 ^{e/}	736	23	26	2	47	10	108	216	152.3	1.4
LPAB juice sales, all products ^{f/}														
1950-51					824		93			11	104	208	153.2	1.4
1951-52					703		149			9	158	316	155.5	2.0
1952-53					1,777		151			23	174	348	158.3	2.2
1953-54					2,413		141			30	171	342	161.3	2.1
1954-55					2,449		168			31	199	398	164.3	2.4

(Continued on next page.)

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Table 19 continued.

- a/ Industry sources say exports of juice products are negligible except during war years for which period data are not available.
- b/ Data not available.
- c/ Less than 500 tons equivalent.
- d/ Contains 1,700,000 gallons lemonade base.
- e/ Contains 91,000 gallons frozen concentrate.
- f/ Lemon Products Advisory Board.

Sources: Compiled by Sunkist Growers from data issued by the following agencies:

- Cols. 1-4: U. S. Production and Marketing Administration. See Hoos, Sidney, and R. E. Seltzer, Lemons and Lemon Products, Economic Status, 1951 (Berkeley: 1951), 48p. (Statistical Supplement to California Agricultural Experiment Station Bul. 729.)
- Col. 5: U. S. Bureau of the Census, United States Imports of Merchandise for Consumption, FT 110 (years 1938-39 to 1949-50 are calendar-year summaries). See Hoos, Sidney, and R. E. Seltzer, Lemons and Lemon Products, Changing Economic Relationships, 1951-52 (Berkeley: 1952), 78p. (California Agricultural Experiment Station Bul. 729.)
- Cols. 6-10: Calculated, using as equivalents: 1 ton of lemons equals 75 gallons of juice, equals 22.22 cases (24 No. 2's), equals 13 gallons concentrate, and equals 90 gallons lemonade base; except 1950-51 to 1953-54 based on Lemon Products Advisory Board conversions of 74.3 gallons per ton in 1950-51 and 1951-52, 76.05 gallons per ton in 1952-53, 81.09 gallons per ton in 1953-54, and 78.3 gallons per ton in 1954-55.
- Col. 11: Total of columns 6-10.
- Cols. 12 and 14: Calculated.
- Col. 13: U. S. Department of Agriculture, Agricultural Statistics (Washington: Govt. Print. Off.), except 1954-55 estimated. Figures are July 1 estimates. (Annual issues.)

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LEADS TO CONSPIRACY.

TABLE 20

United States Consumption Disappearance of Selected Beverages

Year	Total taxpaid with- drawals of malt beverages (fiscal year, July-June)	Frozen concentrate, consumer purchases			Carbonated beverages (calendar year)
		Lemonade (crop year, October-September)	Orange juice (crop year, October-September)	Grape juice (crop year, October-September)	
	1	2	3	4	5
	thousand barrels	thousand packed boxes, fresh fruit equivalent		thousand gallons	million bottles, 24 bottles per case
1934-35	42,229				4,035
1935-36	48,760				4,725
1936-37	55,392				7,037
1937-38	53,926				8,707
1938-39	51,817				9,883
1939-40	53,014				11,592
1940-41	52,799				13,210
1941-42	60,856				17,772
1942-43	68,636				16,883
1943-44	76,970				18,571
1944-45	79,591				19,500
1945-46	81,287				17,500
1946-47	82,629				18,515
1947-48	86,993				21,640
1948-49	85,809		4,637		24,237
1949-50	83,512		11,719	1,014	24,309
1950-51	83,246	582	18,522	1,552	24,042
1951-52	84,294	1,238	31,366	2,457	25,052
1952-53	84,559	1,629	32,842	3,059	27,181
1953-54	85,747	1,593	39,621	3,416	28,268
1954-55		2,028	44,489	3,896	28,240

Sources:

Col. 1: U. S. Brewers Foundation, Brewers Almanac (New York: 1955).Cols. 2-4: U. S. Agricultural Marketing Service, Consumer Purchases of Fruits and Juices (Washington: Govt. Print. Off.). (Monthly issues.) Processed. The data reflect consumer household purchases.Col. 5: American Bottlers of Carbonated Beverages, Members' Information Bulletin, May 1, 1955.

001. T. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.

1001-01	00' 00"	5' 00"	10' 00"	15' 00"	20' 00"
1002-02	01' 00"	6' 00"	11' 00"	16' 00"	21' 00"
1003-03	02' 00"	7' 00"	12' 00"	17' 00"	22' 00"
1004-04	03' 00"	8' 00"	13' 00"	18' 00"	23' 00"
1005-05	04' 00"	9' 00"	14' 00"	19' 00"	24' 00"
1006-06	05' 00"	10' 00"	15' 00"	20' 00"	25' 00"
1007-07	06' 00"	11' 00"	16' 00"	21' 00"	26' 00"
1008-08	07' 00"	12' 00"	17' 00"	22' 00"	27' 00"
1009-09	08' 00"	13' 00"	18' 00"	23' 00"	28' 00"
1010-10	09' 00"	14' 00"	19' 00"	24' 00"	29' 00"
1011-11	10' 00"	15' 00"	20' 00"	25' 00"	30' 00"
1012-12	11' 00"	16' 00"	21' 00"	26' 00"	31' 00"
1013-13	12' 00"	17' 00"	22' 00"	27' 00"	32' 00"
1014-14	13' 00"	18' 00"	23' 00"	28' 00"	33' 00"
1015-15	14' 00"	19' 00"	24' 00"	29' 00"	34' 00"
1016-16	15' 00"	20' 00"	25' 00"	30' 00"	35' 00"
1017-17	16' 00"	21' 00"	26' 00"	31' 00"	36' 00"
1018-18	17' 00"	22' 00"	27' 00"	32' 00"	37' 00"
1019-19	18' 00"	23' 00"	28' 00"	33' 00"	38' 00"
1020-20	19' 00"	24' 00"	29' 00"	34' 00"	39' 00"
1021-21	20' 00"	25' 00"	30' 00"	35' 00"	40' 00"
1022-22	21' 00"	26' 00"	31' 00"	36' 00"	41' 00"
1023-23	22' 00"	27' 00"	32' 00"	37' 00"	42' 00"
1024-24	23' 00"	28' 00"	33' 00"	38' 00"	43' 00"
1025-25	24' 00"	29' 00"	34' 00"	39' 00"	44' 00"
1026-26	25' 00"	30' 00"	35' 00"	40' 00"	45' 00"
1027-27	26' 00"	31' 00"	36' 00"	41' 00"	46' 00"
1028-28	27' 00"	32' 00"	37' 00"	42' 00"	47' 00"
1029-29	28' 00"	33' 00"	38' 00"	43' 00"	48' 00"
1030-30	29' 00"	34' 00"	39' 00"	44' 00"	49' 00"
1031-31	30' 00"	35' 00"	40' 00"	45' 00"	50' 00"
1032-32	31' 00"	36' 00"	41' 00"	46' 00"	51' 00"
1033-33	32' 00"	37' 00"	42' 00"	47' 00"	52' 00"
1034-34	33' 00"	38' 00"	43' 00"	48' 00"	53' 00"
1035-35	34' 00"	39' 00"	44' 00"	49' 00"	54' 00"
1036-36	35' 00"	40' 00"	45' 00"	50' 00"	55' 00"
1037-37	36' 00"	41' 00"	46' 00"	51' 00"	56' 00"
1038-38	37' 00"	42' 00"	47' 00"	52' 00"	57' 00"
1039-39	38' 00"	43' 00"	48' 00"	53' 00"	58' 00"
1040-40	39' 00"	44' 00"	49' 00"	54' 00"	59' 00"
1041-41	40' 00"	45' 00"	50' 00"	55' 00"	60' 00"
1042-42	41' 00"	46' 00"	51' 00"	56' 00"	61' 00"
1043-43	42' 00"	47' 00"	52' 00"	57' 00"	62' 00"
1044-44	43' 00"	48' 00"	53' 00"	58' 00"	63' 00"
1045-45	44' 00"	49' 00"	54' 00"	59' 00"	64' 00"
1046-46	45' 00"	50' 00"	55' 00"	60' 00"	65' 00"
1047-47	46' 00"	51' 00"	56' 00"	61' 00"	66' 00"
1048-48	47' 00"	52' 00"	57' 00"	62' 00"	67' 00"
1049-49	48' 00"	53' 00"	58' 00"	63' 00"	68' 00"
1050-50	49' 00"	54' 00"	59' 00"	64' 00"	69' 00"
1051-51	50' 00"	55' 00"	60' 00"	65' 00"	70' 00"
1052-52	51' 00"	56' 00"	61' 00"	66' 00"	71' 00"
1053-53	52' 00"	57' 00"	62' 00"	67' 00"	72' 00"
1054-54	53' 00"	58' 00"	63' 00"	68' 00"	73' 00"
1055-55	54' 00"	59' 00"	64' 00"	69' 00"	74' 00"
1056-56	55' 00"	60' 00"	65' 00"	70' 00"	75' 00"
1057-57	56' 00"	61' 00"	66' 00"	71' 00"	76' 00"
1058-58	57' 00"	62' 00"	67' 00"	72' 00"	77' 00"
1059-59	58' 00"	63' 00"	68' 00"	73' 00"	78' 00"
1060-60	59' 00"	64' 00"	69' 00"	74' 00"	79' 00"
1061-61	60' 00"	65' 00"	70' 00"	75' 00"	80' 00"
1062-62	61' 00"	66' 00"	71' 00"	76' 00"	81' 00"
1063-63	62' 00"	67' 00"	72' 00"	77' 00"	82' 00"
1064-64	63' 00"	68' 00"	73' 00"	78' 00"	83' 00"
1065-65	64' 00"	69' 00"	74' 00"	79' 00"	84' 00"
1066-66	65' 00"	70' 00"	75' 00"	80' 00"	85' 00"
1067-67	66' 00"	71' 00"	76' 00"	81' 00"	86' 00"
1068-68	67' 00"	72' 00"	77' 00"	82' 00"	87' 00"
1069-69	68' 00"	73' 00"	78' 00"	83' 00"	88' 00"
1070-70	69' 00"	74' 00"	79' 00"	84' 00"	89' 00"
1071-71	70' 00"	75' 00"	80' 00"	85' 00"	90' 00"
1072-72	71' 00"	76' 00"	81' 00"	86' 00"	91' 00"
1073-73	72' 00"	77' 00"	82' 00"	87' 00"	92' 00"
1074-74	73' 00"	78' 00"	83' 00"	88' 00"	93' 00"
1075-75	74' 00"	79' 00"	84' 00"	89' 00"	94' 00"
1076-76	75' 00"	80' 00"	85' 00"	90' 00"	95' 00"
1077-77	76' 00"	81' 00"	86' 00"	91' 00"	96' 00"
1078-78	77' 00"	82' 00"	87' 00"	92' 00"	97' 00"
1079-79	78' 00"	83' 00"	88' 00"	93' 00"	98' 00"
1080-80	79' 00"	84' 00"	89' 00"	94' 00"	99' 00"
1081-81	80' 00"	85' 00"	90' 00"	95' 00"	100' 00"
1082-82	81' 00"	86' 00"	91' 00"	96' 00"	101' 00"
1083-83	82' 00"	87' 00"	92' 00"	97' 00"	102' 00"
1084-84	83' 00"	88' 00"	93' 00"	98' 00"	103' 00"
1085-85	84' 00"	89' 00"	94' 00"	99' 00"	104' 00"
1086-86	85' 00"	90' 00"	95' 00"	100' 00"	105' 00"
1087-87	86' 00"	91' 00"	96' 00"	101' 00"	106' 00"
1088-88	87' 00"	92' 00"	97' 00"	102' 00"	107' 00"
1089-89	88' 00"	93' 00"	98' 00"	103' 00"	108' 00"
1090-90	89' 00"	94' 00"	99' 00"	104' 00"	109' 00"
1091-91	90' 00"	95' 00"	100' 00"	105' 00"	110' 00"
1092-92	91' 00"	96' 00"	101' 00"	106' 00"	111' 00"
1093-93	92' 00"	97' 00"	102' 00"	107' 00"	112' 00"
1094-94	93' 00"	98' 00"	103' 00"	108' 00"	113' 00"
1095-95	94' 00"	99' 00"	104' 00"	109' 00"	114' 00"
1096-96	95' 00"	100' 00"	105' 00"	110' 00"	115' 00"
1097-97	96' 00"	101' 00"	106' 00"	111' 00"	116' 00"
1098-98	97' 00"	102' 00"	107' 00"	112' 00"	117' 00"
1099-99	98' 00"	103' 00"	108' 00"	113' 00"	118' 00"
1100-00	99' 00"	104' 00"	109' 00"	114' 00"	119' 00"

TABLE 21
Utilization of California-Arizona Lemons

Year	Fresh use				Ship for processing	Elimi- nation
	Inter- state ^{a/}	Intra- state	Export ^{b/}	Total		
	standard cars, 406 boxes per car					
1941-42	17,888	1,695	107	19,690	9,221	187
1942-43	21,033	2,418	230	23,681	12,932	404
1943-44	20,774	2,111	476	23,361	4,781	89
1944-45	20,451	2,330	774	23,555	6,908	114
1945-46	19,849	2,196	496	22,541	13,072	162
1946-47	19,909	2,461	430	22,800	10,354	168
1947-48	18,532	2,066	277	20,875	10,695	401
1948-49	17,079	2,262	217	19,558	5,751	325
1949-50	15,840	2,056	250	18,146	7,448	229
1950-51	17,736	1,975	697	20,408	12,547	285
1951-52	18,222	1,884	1,003	21,109	11,246	368
1952-53	17,517	1,768	1,121	20,406	10,771	229
1953-54	17,519	1,802	2,053	21,374	19,389	339
1954-55	17,219	1,720	3,662	22,601	11,831	279

^{a/} Includes Canada.

^{b/} Excludes Canada.

Source: Compiled by Sunkist Growers from records of Lemon Administrative Committee.

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b) Excludes Canada.
a) Includes Canada.

2. *Implications for the future* and *conclusions* are given below.

TABLE 22

Production and Utilization of California-Arizona Lemons

Year (November- October)	Domestic	Export	Total fresh	Products	Eliminated	Total
boxes						
1945-46	8,950,270	201,376	9,151,646	5,307,232	65,772	14,524,650
1946-47	9,082,220	174,580	9,256,800	4,203,318	68,208	13,528,326
1947-48	8,362,788	112,462	8,475,250	4,342,170	163,212	12,980,632
1948-49	7,852,446	88,102	7,940,548	2,334,906	131,950	10,407,404
1949-50	7,265,370	101,500	7,366,870	3,023,888	92,974	10,483,732
1950-51	8,002,666	282,982	8,285,648	5,094,082	115,710	13,495,440
1951-52	8,162,630	407,218	8,569,848	4,565,876	149,408	13,285,132
1952-53	7,829,304	455,126	8,284,430	4,373,026	92,974	12,750,430
1953-54	7,844,732	833,518	8,678,250	7,871,934	137,634	16,687,818
1954-55 ^{a/}	7,689,234	1,486,772	9,176,006	4,803,386	113,274	14,092,666
1955-56 ^{a/}	7,592,200	1,583,400	9,175,600	4,181,800	121,800	13,479,200
cars, 406 boxes per car						
1945-46	22,045	496	22,541	13,072	162	35,775
1946-47	22,370	430	22,800	10,353	168	33,321
1947-48	20,598	277	20,875	10,695	402	31,972
1948-49	19,341	217	19,558	5,751	325	25,634
1949-50	17,895	250	18,145	7,448	229	25,822
1950-51	19,711	697	20,408	12,547	285	33,240
1951-52	20,105	1,003	21,108	11,246	368	32,722
1952-53	19,284	1,121	20,405	10,771	229	31,405
1953-54	19,322	2,053	21,375	19,389	339	41,103
1954-55 ^{a/}	18,939	3,662	22,601	11,831	279	34,711
1955-56 ^{a/}	18,700	3,900	22,600	10,300	300	33,200
tons ^{b/}						
1945-46	352,720	7,936	360,656	209,152	2,592	572,400
1946-47	357,920	6,880	364,800	165,648	2,688	533,136
1947-48	329,568	4,432	334,000	171,120	6,432	511,552
1948-49	309,456	3,472	312,928	92,016	5,200	410,144
1949-50	286,320	4,000	290,320	119,168	3,664	413,152
1950-51	315,376	11,152	326,528	200,752	4,560	531,840
1951-52	321,680	16,048	337,728	179,936	5,888	523,552
1952-53	308,544	17,936	326,480	172,336	3,664	502,480
1953-54	309,152	32,848	342,000	310,224	5,424	657,648
1954-55 ^{a/}	303,024	58,592	361,616	189,296	4,464	555,376
1955-56 ^{a/}	299,200	62,400	361,600	164,800	4,800	531,200

^{a/} Estimated.^{b/} Converted at 16.0 tons per car.

Source: Lemon Administrative Committee. (Annual reports.)

TABLE 1. SUMMARY OF DATA FOR THE 1950-51 FISHING SEASON

Year	Month	Species	Weight (lb)	Length (in)	Age (yr)	Sex
1950-51	Jan	Atlantic Salmon	12.5	28.0	1	M
	Jan	Atlantic Salmon	13.2	29.0	1	F
	Jan	Atlantic Salmon	14.0	30.0	1	M
	Jan	Atlantic Salmon	15.0	31.0	1	F
	Jan	Atlantic Salmon	16.0	32.0	1	M
	Jan	Atlantic Salmon	17.0	33.0	1	F
	Jan	Atlantic Salmon	18.0	34.0	1	M
	Jan	Atlantic Salmon	19.0	35.0	1	F
	Jan	Atlantic Salmon	20.0	36.0	1	M
	Jan	Atlantic Salmon	21.0	37.0	1	F
	Jan	Atlantic Salmon	22.0	38.0	1	M
	Jan	Atlantic Salmon	23.0	39.0	1	F
1951-52	Feb	Atlantic Salmon	13.0	29.0	1	M
	Feb	Atlantic Salmon	13.5	30.0	1	F
	Feb	Atlantic Salmon	14.0	31.0	1	M
	Feb	Atlantic Salmon	14.5	32.0	1	F
	Feb	Atlantic Salmon	15.0	33.0	1	M
	Feb	Atlantic Salmon	15.5	34.0	1	F
	Feb	Atlantic Salmon	16.0	35.0	1	M
	Feb	Atlantic Salmon	16.5	36.0	1	F
	Feb	Atlantic Salmon	17.0	37.0	1	M
	Feb	Atlantic Salmon	17.5	38.0	1	F
	Feb	Atlantic Salmon	18.0	39.0	1	M
	Feb	Atlantic Salmon	18.5	40.0	1	F
1952-53	Mar	Atlantic Salmon	14.0	30.0	1	M
	Mar	Atlantic Salmon	14.5	31.0	1	F
	Mar	Atlantic Salmon	15.0	32.0	1	M
	Mar	Atlantic Salmon	15.5	33.0	1	F
	Mar	Atlantic Salmon	16.0	34.0	1	M
	Mar	Atlantic Salmon	16.5	35.0	1	F
	Mar	Atlantic Salmon	17.0	36.0	1	M
	Mar	Atlantic Salmon	17.5	37.0	1	F
	Mar	Atlantic Salmon	18.0	38.0	1	M
	Mar	Atlantic Salmon	18.5	39.0	1	F
	Mar	Atlantic Salmon	19.0	40.0	1	M
	Mar	Atlantic Salmon	19.5	41.0	1	F
1953-54	Apr	Atlantic Salmon	15.0	31.0	1	M
	Apr	Atlantic Salmon	15.5	32.0	1	F
	Apr	Atlantic Salmon	16.0	33.0	1	M
	Apr	Atlantic Salmon	16.5	34.0	1	F
	Apr	Atlantic Salmon	17.0	35.0	1	M
	Apr	Atlantic Salmon	17.5	36.0	1	F
	Apr	Atlantic Salmon	18.0	37.0	1	M
	Apr	Atlantic Salmon	18.5	38.0	1	F
	Apr	Atlantic Salmon	19.0	39.0	1	M
	Apr	Atlantic Salmon	19.5	40.0	1	F
	Apr	Atlantic Salmon	20.0	41.0	1	M
	Apr	Atlantic Salmon	20.5	42.0	1	F

a/ Estimated.

b/ Converted at 16.0 tons per acre.

Source: Fish Commission, Washington, D.C.

United States Imports of Processed Lemon Products

Calendar year	Imports					
	Lemon oil	Citric acid	Lemon peel		Lemon juice	
			Crude	Candied	Concen- trated ^{a/}	Uncon- centrated
	pounds				gallons	
1918	587,969	332,269				
1919	607,286	1,224,591				
1920	750,785	1,317,467				
1921	617,634	922,737				
1922	689,520	1,325,366				
1923	416,232	757,864				
1924	439,181	673,114	631,171	323,414		
1925	488,236	687,010	--	--		
1926	497,817	137,984	679,656	589,484		
1927	403,735	71,291	570,695	566,096		
1928	452,995	1,338	546,491	784,258		
1929	364,360	--	644,454	905,948		
1930	624,023	--	643,185	621,290	24	1,506
1931	379,574	90,850	695,541	482,060	9	591
1932	215,607	134,521	577,530	501,553	0	823
1933	242,242	9,784	1,175,703	450,851	0	20
1934	192,628	5,275	951,483	242,865	0	527
1935	131,043	575	1,034,266	155,040	0	156
1936	148,052	40	1,059,038	170,045	0	1,520
1937	88,619	866	882,717	143,731	0	796
1938	96,861	111	596,073	146,145	0	197
1939	149,418	15	1,142,953	102,806	0	190
1940	86,489	--	1,265,083	51,948	0	1,942
1941	18,853	110	21,670	6,540	0	309
1942	4,081	--	2,074	0	0	813
1943	600	8,345	2,267	58	2,344	609
1944	117,872	--	19,828	150	0	0
1945	88,000	17,000	13,000	0	0	0
1946	71,000	0	182,000	0	0	0
1947	51,000	0	681,000	1,000	81	0
1948	242,000	10	50,000	24,000	2,262	20
1949	154,000	0	200,000	3,000	386,741	2,303
1950	209,000	11,000	587,000	3,000	733,652	2,686
1951	292,000		146,000	1,000	846,940	7,663
1952	37,000		561,000	10,000	674,571	2,897
1953	114,000		1,897,000	2,000	1,798,932	0
1954	106,431		1,942,311	5,500	2,406,057	0

^{a/} The gallons of concentrated lemon juice are shown in terms of natural-(or single) strength basis, that is, equivalent number of gallons of natural-strength lemon juice.

Sources: U. S. Bureau of Foreign and Domestic Commerce, Foreign Commerce and Navigation of the United States, 1918-1946. (Annual reports.) Also, U. S. Bureau of the Census, United States Imports of Merchandise for Consumption, FT 110. (Calendar-year summaries.)

United States Exports of Fresh Lemons and Limes by Areas of Destination

Season ^{a/}	Canada	United Kingdom	Other European countries	Other countries	Total countries other than Canada	Total
	thousand boxes ^{b/}					
<u>Five-season averages</u>						
1930-1934	207	24	4	51	79	286
1935-1939	346	161	37	38	236	582
1940-1944	489	c/	3	18	22	510
1945-1950	289	c/	9	25	34	323
<u>Seasons</u>						
1930-31	211	--	--	57	57	268
1931-32	189	--	--	44	44	233
1932-33	120	1	c/	37	38	158
1933-34	177	c/	--	51	51	228
1934-35	341	118	21	66	205	546
1935-36	297	257	20	60	337	634
1936-37	214	c/	c/	42	42	256
1937-38	349	269	72	30	371	720
1938-39	433	279	92	27	398	831
1939-40	439	c/	2	29	31	470
1940-41	477	--	4	34	38	515
1941-42	483	c/	3	14	17	500
1942-43	452	--	4	13	17	469
1943-44	485	--	1	7	8	493
1944-45	546	--	3	24	27	573
1945-46	523	--	2	53	55	578
1946-47	430	--	29	17	46	476
1947-48	133	c/	1	22	23	156
1948-49	114	--	1	18	19	133
1949-50	245	--	15	13	28	273
1950-51	357	--	102	23	125	482
1951-52	388	1	186	44	231	619
1952-53	374	--	183	51	234	608
1953-54 ^{d/}	352	25	534	54	613	965

^{a/} Season beginning November 1 of the year.

^{b/} Converted from pounds to boxes, 79 pounds per box.

^{c/} Negligible.

^{d/} Preliminary.

Sources: U. S. Agricultural Marketing Service and records of Foreign Agricultural Service.

Estimated number of birds banded and sexed by date of banding

Year	Sex	Number banded	Number sexed	Number banded and sexed
1950-1951	Male	207	51	258
1951-1952	Male	211	51	262
1952-1953	Male	211	51	262
1953-1954	Male	211	51	262
1954-1955	Male	211	51	262
1955-1956	Male	211	51	262
1956-1957	Male	211	51	262
1957-1958	Male	211	51	262
1958-1959	Male	211	51	262
1959-1960	Male	211	51	262
1960-1961	Male	211	51	262
1961-1962	Male	211	51	262
1962-1963	Male	211	51	262
1963-1964	Male	211	51	262
1964-1965	Male	211	51	262
1965-1966	Male	211	51	262
1966-1967	Male	211	51	262
1967-1968	Male	211	51	262
1968-1969	Male	211	51	262
1969-1970	Male	211	51	262
1970-1971	Male	211	51	262
1971-1972	Male	211	51	262
1972-1973	Male	211	51	262
1973-1974	Male	211	51	262
1974-1975	Male	211	51	262
1975-1976	Male	211	51	262
1976-1977	Male	211	51	262
1977-1978	Male	211	51	262
1978-1979	Male	211	51	262
1979-1980	Male	211	51	262
1980-1981	Male	211	51	262
1981-1982	Male	211	51	262
1982-1983	Male	211	51	262
1983-1984	Male	211	51	262
1984-1985	Male	211	51	262
1985-1986	Male	211	51	262
1986-1987	Male	211	51	262
1987-1988	Male	211	51	262
1988-1989	Male	211	51	262
1989-1990	Male	211	51	262
1990-1991	Male	211	51	262
1991-1992	Male	211	51	262
1992-1993	Male	211	51	262
1993-1994	Male	211	51	262
1994-1995	Male	211	51	262
1995-1996	Male	211	51	262
1996-1997	Male	211	51	262
1997-1998	Male	211	51	262
1998-1999	Male	211	51	262
1999-2000	Male	211	51	262
2000-2001	Male	211	51	262
2001-2002	Male	211	51	262
2002-2003	Male	211	51	262
2003-2004	Male	211	51	262
2004-2005	Male	211	51	262
2005-2006	Male	211	51	262
2006-2007	Male	211	51	262
2007-2008	Male	211	51	262
2008-2009	Male	211	51	262
2009-2010	Male	211	51	262
2010-2011	Male	211	51	262
2011-2012	Male	211	51	262
2012-2013	Male	211	51	262
2013-2014	Male	211	51	262
2014-2015	Male	211	51	262
2015-2016	Male	211	51	262
2016-2017	Male	211	51	262
2017-2018	Male	211	51	262
2018-2019	Male	211	51	262
2019-2020	Male	211	51	262
2020-2021	Male	211	51	262
2021-2022	Male	211	51	262
2022-2023	Male	211	51	262
2023-2024	Male	211	51	262
2024-2025	Male	211	51	262

a/ Season beginning November 1 of the year.

b/ Converted from pounds to boxes, 79 pounds per box.

c/ Negligible.

Source: U.S. Department of the Interior, Bureau of Land Management, Alaska Division, Wildlife Management Section.

TABLE 25

Lemons and Lemon Products, Rates of Duty Under the United States
Tariff Act of 1930 and Trade Agreements with Applicable Tariff Paragraph

Commodity	Rate of duty		Tariff para- graph
	Tariff Act of 1930	Effective trade agreement rate	
Lemons (fresh)	2½ cents per pound	1¼ cents per pound ^{a/}	743
Concentrated lemon juice	70 cents per gallon on the unconcentrated natural fruit juice content	35 cents per gallon on the unconcentrated natural fruit ^{b/} juice content	806 (b)
Unconcentrated lemon juice, containing less than ½ per cent alcohol	70 cents per gallon	20 cents per gallon ^{b/}	806 (a)
Lemon peel: crude, dried, or in brine	2 cents per pound	1½ cents per pound ^{a/}	739
Lemon peel: candied, crys- tallized, glaze, or other- wise prepared or preserved	8 cents per pound	6 cents per pound ^{a/}	739
Lemon oil (essential or dis- tilled), not containing alcohol	25 per cent ad valo- rem	17½ per cent ad valo- rem ^{a/}	58
Terpeneless lemon oil (essential), not containing alcohol	25 per cent ad valo- rem	17½ per cent ad valo- rem ^{a/}	58

^{a/} General Agreement on Tariffs and Trade (GATT) (Annecy), effective May 30, 1950.

^{b/} General Agreement on Tariffs and Trade (GATT)(Geneva), effective January 1, 1948.

Sources: Compiled by U. S. Agricultural Marketing Service from Schedule A, Statistical Classification of Commodities Imported into the United States (Washington: Govt. Print. Off., 1954); U. S. Bureau of the Census and U. S. Tariff Commission, United States Import Duties (Washington, D. C.: 1952 and supplement thereto).

TARIFF ACT OF 1930 AND TRADE AGREEMENTS WITH APPLICABLE TARIFF PARAGRAPHS

Tariff Schedule	Tariff Act of 1930	Tariff Act of 1930	Tariff Act of 1930
703	2 1/2 cents per pound	2 1/2 cents per pound	Lemons (fresh)
806 (a)	70 cents per gallon	70 cents per gallon	Concentrated lemon juice
739	1 1/2 cents per pound	1 1/2 cents per pound	Lemon peel: orange, dried, or in brine
739	6 cents per pound	6 cents per pound	Lemon peel: orange, dried, or in brine
78	1 1/2 or 2 cents ad valorem	1 1/2 or 2 cents ad valorem	Lemon oil (essential or other), not containing alcohol
78	1 1/2 or 2 cents ad valorem	1 1/2 or 2 cents ad valorem	Lemon oil (essential or other), not containing alcohol

a/ General Agreement on Tariffs and Trade (GATT) (Geneva), effective May 30, 1950.
 b/ General Agreement on Tariffs and Trade (GATT) (Geneva), effective January 1, 1958.

Source: Compiled by U. S. Agricultural Marketing Service from Schedule A, Section 1, of the Tariff Act of 1930, as amended, and the Tariff Act of 1930, as amended.

TABLE 26

Average F.O.B. Prices of Fresh Shipments
of California-Arizona Lemons

Year	Winter price (November-April)	Summer price (May-October)
	dollars per packed box	
1919-20	3.28	2.43
1920-21	2.05	5.11
1921-22	3.48	4.47
1922-23	4.20	5.23
1923-24	2.38	2.74
1924-25	3.87	4.93
1925-26	3.33	3.23
1926-27	2.73	4.88
1927-28	4.81	4.86
1928-29	3.58	5.36
1929-30	4.94	5.18
1930-31	3.09	4.50
1931-32	2.49	4.41
1932-33	3.09	3.60
1933-34	3.20	3.85
1934-35	2.18	3.39
1935-36	3.75	4.49
1936-37	3.82	4.87
1937-38	3.49	2.82
1938-39	2.51	3.07
1939-40	2.99	3.04
1940-41	2.43	3.19
1941-42	3.21	3.31
1942-43	4.30	4.81
1943-44	4.52	5.49
1944-45	4.67	4.76
1945-46	4.70	4.18
1946-47	4.89	5.65
1947-48	4.78	5.89
1948-49	6.49	7.34
1949-50	6.85	5.55
1950-51	5.82	5.88
1951-52	6.06	6.67
1952-53	5.93	6.52
1953-54	6.10	5.75
1954-55	5.67	5.47

Source: Sunkist Growers, Statistical Information on the
Citrus Fruit Industry. (Annual issues.)

TABLE 28

U.S. Prices of Fresh Fruit
of California-Average Season

Year	Winter Price (November-April)	Summer Price (May-October)
1925-26	2.61	2.41
1926-27	2.10	2.12
1927-28	2.22	2.22
1928-29	2.00	2.04
1929-30	2.82	2.88
1930-31	2.82	2.88
1931-32	2.82	2.88
1932-33	2.82	2.88
1933-34	2.82	2.88
1934-35	2.82	2.88
1935-36	2.82	2.88
1936-37	2.82	2.88
1937-38	2.82	2.88
1938-39	2.82	2.88
1939-40	2.82	2.88
1940-41	2.82	2.88
1941-42	2.82	2.88
1942-43	2.82	2.88
1943-44	2.82	2.88
1944-45	2.82	2.88
1945-46	2.82	2.88
1946-47	2.82	2.88
1947-48	2.82	2.88
1948-49	2.82	2.88
1949-50	2.82	2.88
1950-51	2.82	2.88
1951-52	2.82	2.88
1952-53	2.82	2.88
1953-54	2.82	2.88
1954-55	2.82	2.88
1955-56	2.82	2.88
1956-57	2.82	2.88
1957-58	2.82	2.88
1958-59	2.82	2.88
1959-60	2.82	2.88
1960-61	2.82	2.88
1961-62	2.82	2.88
1962-63	2.82	2.88
1963-64	2.82	2.88
1964-65	2.82	2.88
1965-66	2.82	2.88
1966-67	2.82	2.88
1967-68	2.82	2.88
1968-69	2.82	2.88
1969-70	2.82	2.88
1970-71	2.82	2.88
1971-72	2.82	2.88
1972-73	2.82	2.88
1973-74	2.82	2.88
1974-75	2.82	2.88
1975-76	2.82	2.88
1976-77	2.82	2.88
1977-78	2.82	2.88
1978-79	2.82	2.88
1979-80	2.82	2.88
1980-81	2.82	2.88
1981-82	2.82	2.88
1982-83	2.82	2.88
1983-84	2.82	2.88
1984-85	2.82	2.88
1985-86	2.82	2.88
1986-87	2.82	2.88
1987-88	2.82	2.88
1988-89	2.82	2.88
1989-90	2.82	2.88
1990-91	2.82	2.88
1991-92	2.82	2.88
1992-93	2.82	2.88
1993-94	2.82	2.88
1994-95	2.82	2.88
1995-96	2.82	2.88
1996-97	2.82	2.88
1997-98	2.82	2.88
1998-99	2.82	2.88
1999-00	2.82	2.88
2000-01	2.82	2.88
2001-02	2.82	2.88
2002-03	2.82	2.88
2003-04	2.82	2.88
2004-05	2.82	2.88
2005-06	2.82	2.88
2006-07	2.82	2.88
2007-08	2.82	2.88
2008-09	2.82	2.88
2009-10	2.82	2.88
2010-11	2.82	2.88
2011-12	2.82	2.88
2012-13	2.82	2.88
2013-14	2.82	2.88
2014-15	2.82	2.88
2015-16	2.82	2.88
2016-17	2.82	2.88
2017-18	2.82	2.88
2018-19	2.82	2.88
2019-20	2.82	2.88
2020-21	2.82	2.88
2021-22	2.82	2.88
2022-23	2.82	2.88
2023-24	2.82	2.88
2024-25	2.82	2.88

TABLE 27

Packs of California Lemon-Juice Products in Various Forms

Season ^{a/}	Concentrate for lemonade		Concentrated lemon juice		Processed single-strength lemon juice		Chilled single- strength lemon juice
	Frozen	Nonfrozen	Frozen	Nonfrozen ^{b/}	Frozen	Nonfrozen ^{c/}	
	thousand gallons						
1940-41				192		992	
1941-42				99		770	
1942-43				682		98	
1943-44				277		375	
1944-45				393		1,114	
1945-46				280		2,116	26
1946-47				244	151	1,124	168
1947-48				446	231	1,660	154
1948-49				579	179	1,532	148
1949-50	1,702		91	523	549	1,748	142
1950-51	3,437	391	205	407	455	1,263	36
1951-52	5,751	422	317	405	805	1,674	61
1952-53	8,628	485	574	589	900	2,121	70
1953-54	9,845	476	1,316	489	984	1,319	66
1954-55	8,268	271	908	586	794	1,971	90

^{a/} November 1-October 31 basis for seasons 1940-41 through 1951-52. The 1952-53 season is on an 11-month basis, November 1 to September 30, because of the change in the pack year to an October 1-September 30 basis for the seasons following 1952-53

^{b/} Reported as 40° Brix prior to 1950-51 season.

^{c/} Converted from cases 24 No. 2's (as reported through 1949-50) to gallons, 3.375 gallons per case.

Sources: Seasons 1940-41 through 1949-50 from annual survey conducted by Fruit and Vegetable Division, U. S. Agricultural Marketing Service; seasons 1950-51 through 1954-55 from reports of Lemon Products Advisory Board.

TABLE 28

United States Production of Lemon Oil

Crop year	Cold pressed oil	Distilled oil	Total oil production
	pounds		
1934-35	662,600	191,948	864,548
1935-36	63,281	26,482	89,763
1936-37	261,373	129,914	391,287
1937-38	329,297	113,113	442,410
1938-39	854,763	180,165	1,034,928
1939-40	798,470	268,906	1,067,376
1940-41	1,445,027	182,897	1,627,924
1941-42	747,571	111,467	859,038
1942-43	864,593	112,323	976,916
1943-44	369,399	86,300	455,699
1944-45	544,821	119,455	664,276
1945-46	1,006,576	184,745	1,191,321
1946-47	912,852	56,524	969,376
1947-48	846,054	70,012	916,066
1948-49	425,780	41,095	466,875
1949-50	534,704	150,884	685,588
1950-51	882,584	189,106	1,071,690
1951-52	696,982	215,147	912,129
1952-53	724,462	199,331	923,793
1953-54	1,313,468	190,459	1,503,927

Sources: Based on records of Exchange Lemon Products Company, Southern California Citrus Foods, and estimated production of other processors on basis of average yields and tonnage handled.

TABLE 26

Year	Gold pressed oil	Unsettled oil	Total production
1922-23	1,000,000	1,000,000	1,000,000
1923-24	1,000,000	1,000,000	1,000,000
1924-25	1,000,000	1,000,000	1,000,000
1925-26	1,000,000	1,000,000	1,000,000
1926-27	1,000,000	1,000,000	1,000,000
1927-28	1,000,000	1,000,000	1,000,000
1928-29	1,000,000	1,000,000	1,000,000
1929-30	1,000,000	1,000,000	1,000,000
1930-31	1,000,000	1,000,000	1,000,000
1931-32	1,000,000	1,000,000	1,000,000
1932-33	1,000,000	1,000,000	1,000,000
1933-34	1,000,000	1,000,000	1,000,000
1934-35	1,000,000	1,000,000	1,000,000
1935-36	1,000,000	1,000,000	1,000,000
1936-37	1,000,000	1,000,000	1,000,000
1937-38	1,000,000	1,000,000	1,000,000
1938-39	1,000,000	1,000,000	1,000,000
1939-40	1,000,000	1,000,000	1,000,000
1940-41	1,000,000	1,000,000	1,000,000
1941-42	1,000,000	1,000,000	1,000,000
1942-43	1,000,000	1,000,000	1,000,000
1943-44	1,000,000	1,000,000	1,000,000
1944-45	1,000,000	1,000,000	1,000,000
1945-46	1,000,000	1,000,000	1,000,000
1946-47	1,000,000	1,000,000	1,000,000
1947-48	1,000,000	1,000,000	1,000,000
1948-49	1,000,000	1,000,000	1,000,000
1949-50	1,000,000	1,000,000	1,000,000
1950-51	1,000,000	1,000,000	1,000,000
1951-52	1,000,000	1,000,000	1,000,000
1952-53	1,000,000	1,000,000	1,000,000
1953-54	1,000,000	1,000,000	1,000,000
1954-55	1,000,000	1,000,000	1,000,000
1955-56	1,000,000	1,000,000	1,000,000
1956-57	1,000,000	1,000,000	1,000,000
1957-58	1,000,000	1,000,000	1,000,000
1958-59	1,000,000	1,000,000	1,000,000
1959-60	1,000,000	1,000,000	1,000,000
1960-61	1,000,000	1,000,000	1,000,000
1961-62	1,000,000	1,000,000	1,000,000
1962-63	1,000,000	1,000,000	1,000,000
1963-64	1,000,000	1,000,000	1,000,000
1964-65	1,000,000	1,000,000	1,000,000
1965-66	1,000,000	1,000,000	1,000,000
1966-67	1,000,000	1,000,000	1,000,000
1967-68	1,000,000	1,000,000	1,000,000
1968-69	1,000,000	1,000,000	1,000,000
1969-70	1,000,000	1,000,000	1,000,000
1970-71	1,000,000	1,000,000	1,000,000
1971-72	1,000,000	1,000,000	1,000,000
1972-73	1,000,000	1,000,000	1,000,000
1973-74	1,000,000	1,000,000	1,000,000
1974-75	1,000,000	1,000,000	1,000,000
1975-76	1,000,000	1,000,000	1,000,000
1976-77	1,000,000	1,000,000	1,000,000
1977-78	1,000,000	1,000,000	1,000,000
1978-79	1,000,000	1,000,000	1,000,000
1979-80	1,000,000	1,000,000	1,000,000
1980-81	1,000,000	1,000,000	1,000,000
1981-82	1,000,000	1,000,000	1,000,000
1982-83	1,000,000	1,000,000	1,000,000
1983-84	1,000,000	1,000,000	1,000,000
1984-85	1,000,000	1,000,000	1,000,000
1985-86	1,000,000	1,000,000	1,000,000
1986-87	1,000,000	1,000,000	1,000,000
1987-88	1,000,000	1,000,000	1,000,000
1988-89	1,000,000	1,000,000	1,000,000
1989-90	1,000,000	1,000,000	1,000,000
1990-91	1,000,000	1,000,000	1,000,000
1991-92	1,000,000	1,000,000	1,000,000
1992-93	1,000,000	1,000,000	1,000,000
1993-94	1,000,000	1,000,000	1,000,000
1994-95	1,000,000	1,000,000	1,000,000
1995-96	1,000,000	1,000,000	1,000,000
1996-97	1,000,000	1,000,000	1,000,000
1997-98	1,000,000	1,000,000	1,000,000
1998-99	1,000,000	1,000,000	1,000,000
1999-00	1,000,000	1,000,000	1,000,000
2000-01	1,000,000	1,000,000	1,000,000
2001-02	1,000,000	1,000,000	1,000,000
2002-03	1,000,000	1,000,000	1,000,000
2003-04	1,000,000	1,000,000	1,000,000
2004-05	1,000,000	1,000,000	1,000,000
2005-06	1,000,000	1,000,000	1,000,000
2006-07	1,000,000	1,000,000	1,000,000
2007-08	1,000,000	1,000,000	1,000,000
2008-09	1,000,000	1,000,000	1,000,000
2009-10	1,000,000	1,000,000	1,000,000
2010-11	1,000,000	1,000,000	1,000,000
2011-12	1,000,000	1,000,000	1,000,000
2012-13	1,000,000	1,000,000	1,000,000
2013-14	1,000,000	1,000,000	1,000,000
2014-15	1,000,000	1,000,000	1,000,000
2015-16	1,000,000	1,000,000	1,000,000
2016-17	1,000,000	1,000,000	1,000,000
2017-18	1,000,000	1,000,000	1,000,000
2018-19	1,000,000	1,000,000	1,000,000
2019-20	1,000,000	1,000,000	1,000,000
2020-21	1,000,000	1,000,000	1,000,000
2021-22	1,000,000	1,000,000	1,000,000
2022-23	1,000,000	1,000,000	1,000,000

Source: Based on records of Exchange Lemon Products Company, Southern California Citrus Pools, and estimated production of other processors on basis of average yields and tonnage.

TABLE 29

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Consumer Household Purchases of Lemons and Lemon Products

Item and month	1950	1951	1952	1953	1954	1955
thousand boxes						
<u>Lemons (fresh)</u>						
January	172	193	206	220	223	234
February	204	200	202	229	246	251
March	242	224	218	240	278	252
April	249	246	251	254	321	307
May	320	314	308	322	352	407
June	519	466	577	575	706	587
July	512	584	598	616	738	754
August	464	497	452	552	545	610
September	257	300	269	351	352	337
October	236	236	219	274	252	228
November	201	192	193	213	225	207
December	204	209	199	232	243	216
thousand equivalent cases, 24 No. 2's						
<u>Canned single-strength lemon juice</u>						
January	37	41	50	40	40	47
February	40	45	42	32	36	45
March	37	36	49	38	43	43
April	37	48	56	35	50	47
May	48	63	67	49	57	73
June	96	86	137	112	111	83
July	112	103	212	140	110	136
August	67	81	130	106	93	96
September	43	45	81	74	56	46
October	34	42	46	45	50	34
November	31	43	41	39	43	32
December	35	45	35	37	41	31
thousand gallons						
<u>Frozen lemonade</u>						
January	--	--	87	80	121	121
February	--	--	69	94	114	136
March	--	--	80	116	139	194
April	--	--	129	159	230	321
May	--	--	212	350	514	881
June	--	--	795	1,096	1,638	1,551
July	--	--	1,379	1,630	1,769	2,493
August	--	--	822	1,204	1,172	2,184
September	--	215	355	763	525	720
October	--	156	167	267	244	230
November	--	106	115	162	167	174
December	--	72	80	102	127	147

Source: Compiled by U. S. Agricultural Marketing Service, Consumer Purchases of Fruits and Juices (Washington: Govt. Print. Off.). (Monthly issues.)

Average Monthly Prices Paid by Consumers for Lemons and Lemon Products

Item and month	1950	1951	1952	1953	1954	1955
cents per dozen						
<u>Lemons (fresh)</u>						
January	61.3	44.8	47.4	46.3	47.5	46.2
February	48.1	48.1	47.8	47.2	46.0	44.0
March	44.4	46.9	45.9	45.9	45.8	42.9
April	40.8	42.3	42.9	43.8	43.8	41.3
May	42.4	44.5	44.2	42.7	43.7	41.9
June	45.5	41.8	45.6	45.6	44.1	40.4
July	44.4	40.4	51.5	46.8	42.7	41.8
August	40.3	43.5	47.8	43.4	42.5	41.6
September	41.8	45.0	45.4	48.0	43.2	42.7
October	40.5	45.2	45.7	45.8	45.1	43.9
November	40.8	46.7	45.3	46.6	46.8	45.5
December	42.8	46.8	46.4	47.0	45.0	46.8
cents per 5½-ounce can						
<u>Canned single-strength lemon juice</u>						
January	12.4	11.8	10.1	11.7	13.0	13.7
February	13.2	12.9	10.6	12.1	13.0	13.3
March	13.3	12.0	10.5	11.8	13.3	13.1
April	13.2	10.6	9.8	11.4	12.7	13.7
May	13.4	10.4	9.8	11.9	13.0	13.2
June	12.9	10.0	9.7	12.3	13.0	12.9
July	13.4	10.4	10.1	12.1	13.5	12.6
August	14.1	9.8	10.6	12.1	13.6	12.7
September	13.4	10.4	11.2	13.1	14.3	12.5
October	10.7	9.7	12.0	13.4	14.1	11.8
November	12.0	10.3	11.2	12.7	12.8	12.9
December	12.2	10.1	11.2	12.6	13.1	12.5
cents per 6-ounce can						
<u>Frozen lemonade</u>						
January	--	--	15.4	17.3	17.5	16.2
February	--	--	15.9	17.0	18.9	15.9
March	--	--	16.1	16.9	17.4	15.5
April	--	--	15.5	17.1	17.3	15.3
May	--	--	15.1	16.7	16.5	14.3
June	--	--	15.4	16.7	16.2	14.0
July	--	--	15.9	17.0	15.9	13.6
August	--	--	17.0	17.3	15.7	13.9
September	--	16.4	17.6	17.6	15.1	13.3
October	--	14.9	17.6	17.2	15.7	14.0
November	--	14.4	17.0	18.4	15.4	14.0
December	--	14.3	17.0	17.5	16.0	14.3

Source: Compiled by U. S. Agricultural Marketing Service, Consumer Purchases of Fruits and Juices (Washington: Govt. Print. Off.). (Monthly issues.)

TABLE 31

Estimated Cost Per Packed Box of Producing and
Marketing California-Arizona Lemons

Year	Cul- tural cost ^{a/}	Pick- ing	Haul- ing	Cost at packing house door	Pack- ing	Selling and adver- tising	Trans- portation to blanket	Total mar- keting cost	Total cost produc- ing and market- ing
dollars per packed box									
1924-25	1.64	.40	.06	2.10	.93	.16	1.31	2.86	4.50
1925-26	1.33	.41	.06	1.80	.88	.14	1.31	2.80	4.13
1926-27	1.39	.34	.06	1.79	.90	.15	1.31	2.76	4.15
1927-28	1.73	.39	.06	2.13	.85	.19	1.31	2.80	4.53
1928-29	1.49	.39	.06	1.89	.85	.16	1.31	2.77	4.26
1929-30	1.85	.37	.06	2.28	.85	.19	1.31	2.78	4.63
1930-31	1.38	.38	.05	1.82	.84	.17	1.31	2.76	4.14
1931-32	1.40	.34	.05	1.79	.83	.18	1.32	2.72	4.12
1932-33	1.18	.29	.05	1.52	.75	.17	1.29	2.55	3.73
1933-34	1.10	.30	.05	1.45	.73	.17	1.25	2.50	3.60
1934-35	.91	.27	.05	1.23	.78	.16	1.25	2.51	3.42
1935-36	1.26	.31	.05	1.62	.77	.17	1.25	2.55	3.81
1936-37	1.69	.34	.05	2.08	.85	.18	1.18	2.60	4.29
1937-38	1.30	.35	.05	1.65	.80	.16	1.22	2.58	3.88
1938-39	1.21	.32	.05	1.58	.81	.18	1.24	2.60	3.81
1939-40	1.36	.31	.05	1.72	.80	.17	1.24	2.57	3.93
1940-41	.81	.30	.04	1.15	.85	.18	1.24	2.61	3.42
1941-42	1.14	.35	.05	1.54	1.01	.18	1.26	2.85	3.99
1942-43	.72 ^{a/}	.49	.06	1.27	1.11	.19	1.28	3.13	3.85
1943-44	1.14	.55	.06	1.75	1.20	.20	1.26	3.27	4.41
1944-45	1.13	.60	.07	1.80	1.24	.20	1.31	3.42	4.55
1945-46	1.17	.57	.06	1.80	1.32	.23	1.32	3.50	4.67
1946-47	1.35	.60	.07	2.02	1.41	.24	1.41	3.73	5.08
1947-48	1.33	.64	.07	2.04	1.53	.25	1.60	4.09	5.42
1948-49	1.94	.67	.07	2.68	1.59	.27	1.66	4.26	6.20
1949-50	1.32	.65	.08	2.05	1.55	.28	1.69	4.25	5.57
1950-51	1.16	.66	.08	1.90	1.60	.31	1.69	4.34	5.50
1951-52	1.18	.70	.08	1.96	1.62	.30	1.75	4.45	5.63
1952-53	1.46	.71	.08	2.25	1.56	.26	1.76	4.37	5.83
1953-54	1.04	.65	.08	1.77	1.45	.32	1.78	4.28	5.32
1954-55 ^{b/}	1.25	.71	.09	2.05	1.46	.34	1.78	4.38	5.63

^{a/} Prior to 1942-43, cultural costs were imputed to fresh shipments; beginning with 1942-43, cultural costs have been imputed to total production.

^{b/} Preliminary.

Sources: California Citrus League. (Annual reports.) Sunkist Growers, Statistical Information on the Citrus Fruit Industry. (Annual issues.)

TABLE 31

Estimated Cost Per Packed Box of Producing and
Marketing California-Arizona Lemons

Year	Out- turn costs	Pick- ing	Haul- ing	Cost of packing house door	Pack- ing and relating	Selling and adver- tising	Trans- portation to market	Total mar- keting cost	Total produc- ing and market- ing cost
1924-25	1.64	.40	.06	2.40	.93	.16	1.31	2.86	4.50
1925-26	1.33	.41	.06	1.80	.88	.14	1.31	2.80	4.13
1926-27	1.30	.34	.06	1.70	.90	.15	1.31	2.76	4.12
1927-28	1.13	.39	.06	2.13	.85	.19	1.31	2.80	4.53
1928-29	1.49	.39	.06	1.80	.85	.16	1.31	2.77	4.28
1929-30	1.85	.37	.06	2.28	.85	.19	1.31	2.78	4.63
1930-31	1.38	.38	.05	1.88	.84	.17	1.31	2.76	4.14
1931-32	1.40	.34	.05	1.70	.83	.18	1.32	2.72	4.12
1932-33	1.16	.29	.05	1.52	.75	.17	1.29	2.55	3.73
1933-34	1.10	.30	.05	1.45	.73	.17	1.25	2.50	3.60
1934-35	.91	.27	.05	1.23	.78	.16	1.25	2.51	3.42
1935-36	1.26	.31	.05	1.62	.77	.17	1.25	2.66	3.81
1936-37	1.69	.34	.05	2.08	.85	.18	1.18	2.80	4.69
1937-38	1.30	.35	.05	1.65	.80	.16	1.22	2.58	3.88
1938-39	1.21	.38	.05	1.58	.81	.18	1.24	2.60	3.91
1939-40	1.36	.31	.05	1.75	.80	.17	1.24	2.57	3.93
1940-41	.81	.30	.04	1.15	.85	.18	1.24	2.61	3.42
1941-42	1.14	.35	.05	1.54	1.01	.18	1.26	2.85	3.99
1942-43	1.14	.49	.05	1.27	1.11	.19	1.20	3.13	3.65
1943-44	1.14	.52	.05	1.75	1.20	.20	1.26	3.27	4.41
1944-45	1.13	.60	.07	1.80	1.24	.20	1.31	3.45	4.55
1945-46	1.17	.57	.06	1.80	1.32	.23	1.32	3.90	4.67
1946-47	1.35	.60	.07	2.08	1.41	.24	1.41	3.73	5.08
1947-48	1.33	.64	.07	2.04	1.53	.25	1.60	4.09	5.42
1948-49	1.94	.67	.07	2.68	1.59	.27	1.66	4.52	6.20
1949-50	1.32	.65	.08	2.05	1.35	.28	1.69	4.35	5.77
1950-51	1.16	.66	.08	1.50	1.60	.31	1.69	4.34	5.50
1951-52	1.18	.70	.08	1.56	1.62	.30	1.75	4.45	5.63
1952-53	1.46	.71	.08	2.25	1.56	.26	1.76	4.37	5.63
1953-54	1.04	.65	.08	1.77	1.45	.32	1.78	4.28	5.32
1954-55	1.25	.71	.09	2.05	1.46	.34	1.78	4.38	5.63

a/ Prior to 1942-43, cultural costs were imputed to fresh shipments; beginning with 1942-43, cultural costs have been imputed to total production.

b/ Preliminary.

Sources: California Citrus League. (Annual reports.) Smelter Growers, Statistical Information on the Citrus Fruit Industry. (Annual issues.)



